

model car *Science*

OCTOBER 1963 35¢

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RACING
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**HOW TO STAGE EXCITING RACES
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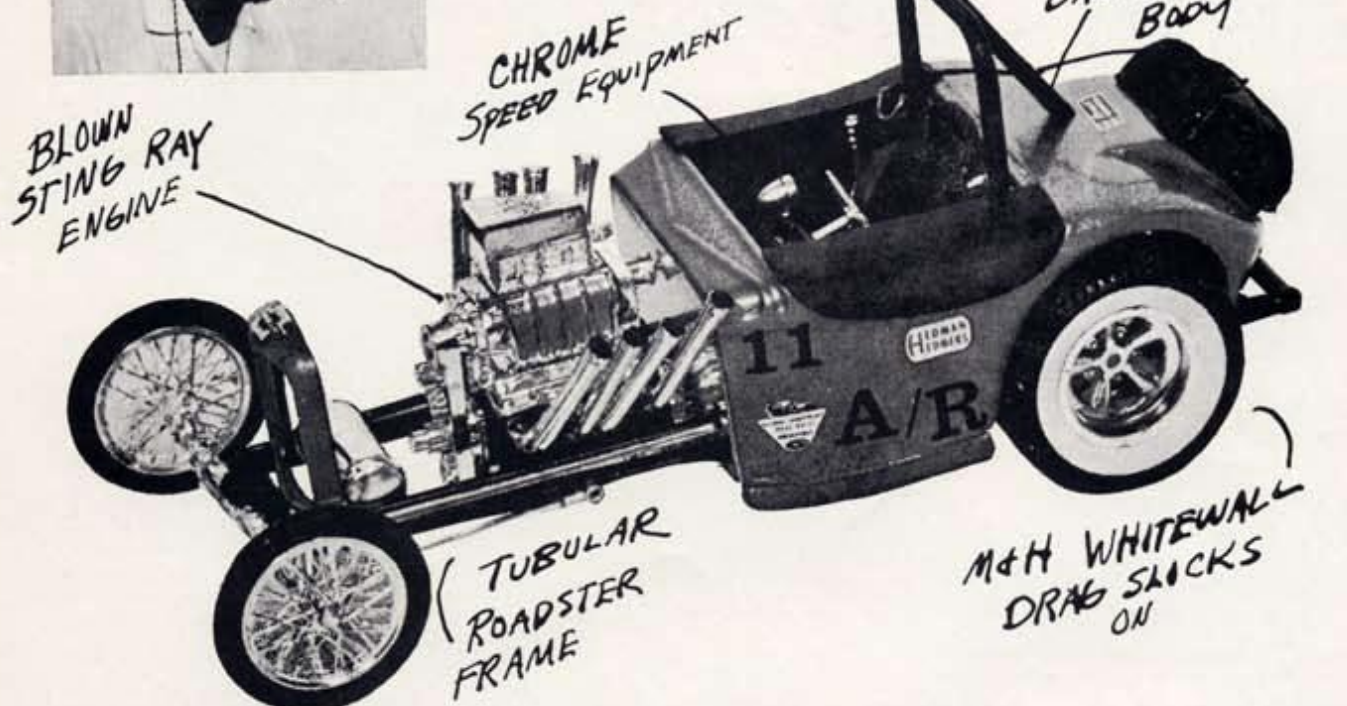
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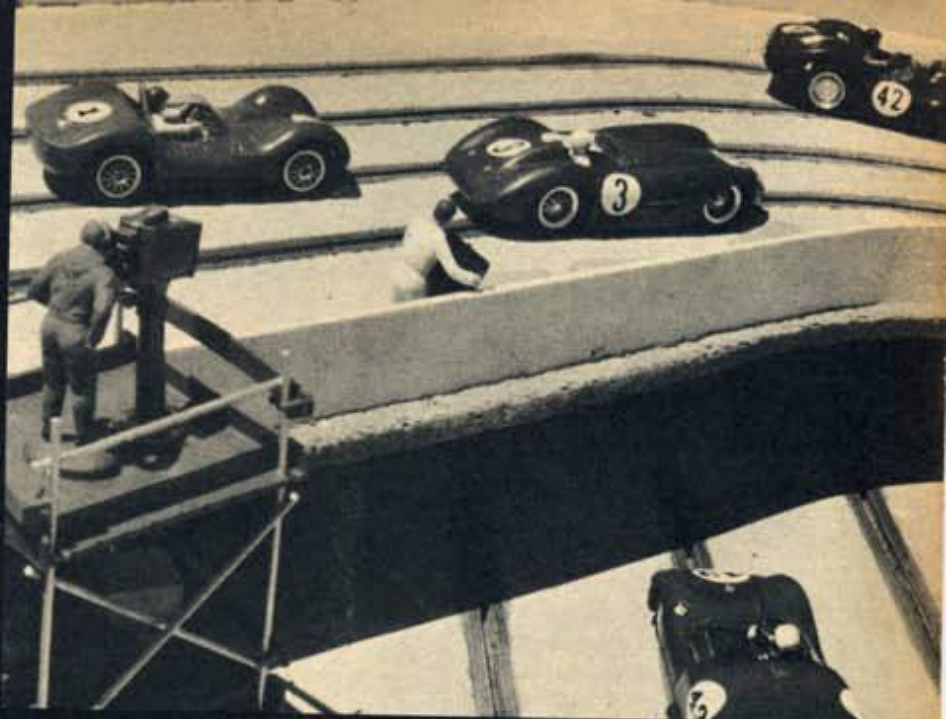
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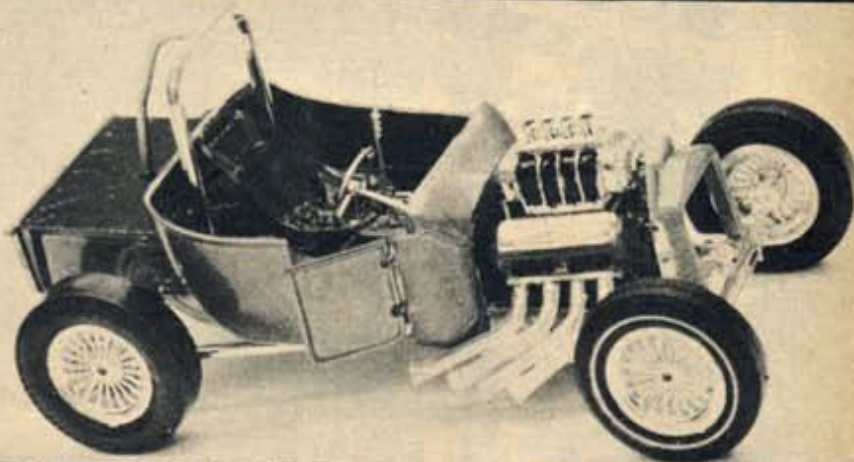
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COVER — If it weren't for that giant hand as a reference point, we're sure many uninformed observers would regard our cover car as one much larger than a model. That neat golden roadster is the work of show winner Bob Wagner, a frequent contributor to MCS.

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Table Top TRACK Operators

In coming months, *Model Car Science* will feature a nation-wide directory of table top tracks, their locations and times of races. This is a FREE service for our readers... there is no charge for this listing. Send news of your track TODAY to:

Model Car Science
171 Barrington Pl.
Los Angeles 49, Calif.

MODEL MAIL

READER'S TIPS

Here are a few ideas which may be of use to other modelers. First, I use Testors transparent green paint to achieve a tinted glass effect. Next, I use Elmer's Glue All to cement in windows, headlights and other things which usually fog up when glued with plastic cement. It dries clear, but shrinks a little and this should be compensated for. To go all out and paint every nut head, try straightening a paper clip and dip it in the silver paint, then just touch the end to each nut — real sharp!

Joe Greenleaf
Escanaba, Mich.

An emery board works better than a file for the rough body shaping.

J. McCreary
Charlotte, N.C.

HO SCALE—WHAT SIZE?

I would like to see some articles on HO road racing. Also, what is the true scale of HO cars?

John Sewell
Farmington, Mich

Check the article "Don't Ho-Ho at HO" in the September issue of *Model Car Science*. HO cars are actually 1/87 scale; O cars are 1/48 scale.

DEFENDING MODEL CARS

Mr. W. H. Burdette's referral (in Aug. M.C.S.) to slot tracks as being "for kids" is as ridiculous as is his remark that slot racing has "grown men wasting valuable time on toy cars." I think that this would be a much better world to live in if people would spend more of their spare time on "kid stuff."

Peter Gudekunst, Jr.
El Segundo, Calif.

Who is W. H. Burdette trying to kid?
Chris Robinson
No. Hollywood, Calif.

I was really surprised to see a letter in *Model Mail* asking for some "plane" features. This clown is wrong about "plane makers" still being the real pros of model building. Has he ever bought a \$1.00 or \$2.00 kit and added working doors, lights, etc? Has he ever spent hours, days, weeks, modifying a front end or applied a lush candy apple or metallflake finish on a plane? No! Most plane builders put one together in 2 or 3 days at the very most, then hang it in their room and gawk at it.

Ray Patrizio
San Jose, Calif.

FLORIDA FAN CLUB

A group of us modelers recently organized one of the few (as far as we know) model car clubs in Central Florida, and use your magazine as a helpful reference. We have thus far co-sponsored

two shows and have another in the offing, and have more than doubled original membership. Thanks for a fine magazine.

Jack Bissett, Secretary
CAR-AFTSMEN Model Car Club
Winter Haven, Florida

CONTEST CARS

On page 28 of the August M.C.S. you state that Bob Wagner's "Surfer's T" won first place at the Winternationals. How does one get a model into this contest and what categories are there?

John F. Rossmann
St. Louis, Mo.

Plans for the 1964 Winternationals have not been formulated as yet. If they do decide to hold a model contest again this year, M.C.S. will carry the information in November.

CLAY PARTS WORK WELL

I tried your wonderful advice in the August M.C.S. and was so surprised at the amazing discovery of making inexpensive parts out of clay. I have started making clay mags, magspokes, rev. rims, and they all work perfectly. You can't even tell them apart they are so identical. I was so impressed with all the info in M.C.S., I've decided to subscribe.

Richard Salazar
Oakland, Calif.

TRACK TROUBLES

After reading your April issue on "How to build a track" at home, I decided to build my own. In the process of building it, I have come across two problems. First, if I am going to have an overpass, how do I make the road that runs under the bridge? Since I must raise the bridge, there will be an empty space left where the underpass is located. Next, where do I locate the wires on the tape without the cars running over it?

John Manoogian
Rochester, Mich.

Cut another piece of particle board to fit the gap in the road, then draw the lines on it to denote the slots for the track, cut the slots with the router, then install the section of board in place.

There are several ways of attaching hookup wires to the tape. One method is to cut a short section of tape, perhaps an inch or two long, and run it off the main slot tape at right angles. An alternate method is to run the wires up through tiny holes drilled beneath the spot where the tape will run. Push the wire through the hole, then bend the bare end over and simply stick the tape down on top of it.

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SLOT RACING CLUB & TRACK DIRECTORY

Totowa Hobby Shop, 388 Union Avenue, Paterson 2, New Jersey

Jerry Osborne, 6127 Hammel Ave., Cincinnati 37, Ohio

An HO scale road racing course covering $\frac{3}{4}$ of a mile (scale). Time: every Friday night & Saturday afternoons.

The Ecurie Liberty Club, Mc Bowl Building, 906 West Hiway 10, Liberty, Missouri Phone: GI 3-3614 75 ft. scenic road course with 4 lanes, 999 lap electronic lap counter plus individual electric timers for each lane that time to 1/10 sec. Races held every other Saturday night.

Next major event: 1/32 scale open road racing championship starting Oct. 26. For additional information or proxy entries, contact: Amber Pifer, 4502 N. Campbell, Kansas City, Mo.

Ohmco Raceway, 837 W. Davis, Dallas 8, Texas Phone: WH 2-3054

Group has a scale $\frac{1}{4}$ mi. drag strip equipped with electric clocks and lighting arrangement to electrically pick the winner. Drag races are held every Wednesday. They also have a scale half mile, six-lane road course. This course has rheostat controls for variable speed control. Road races are run every Monday & Friday night, under rules set forth by the S.M.R.A. Group also holds special enduros, extended races from 25 to 250 laps, novice races and powder puff races for female drivers only.

"Forest City 1/25th ERS"

Located on Cleveland's West Side, this group has three AMT tracks. Two are road courses, the third is an extended oval.

Races in three divisions: Belt drive, Gear drive and Sports division (any drive).

Races held on the first and third Sunday morning each month. For more information, contact: Ron Smith, 3344 Linden Road, Rocky River 16, Ohio.

Aurora High Model Club, c/o Stan Reeves, 10th and Newark, Aurora 8, Colo.

Club has a 1/25 scale drag strip. Races held every other Thursday at 7 p.m.

Parkers, Burien Hobby Center, 619 S.W. 152nd, Seattle 66, Wash.

Four lane road race track 18' x 65' for both 1/32 and 1/24 scale, plus a scale $\frac{1}{4}$ mi. drag strip. Racing every Monday and Friday evening.

Alamo Raceway, J & R Variety Store, 5 Market Plaza, Alamo, Calif.

Phone: Area 415, 837-9906

Hours: 2 p.m. til 9 p.m., Monday through Saturday.

Marina Raceway, 12901 Venice Blvd., Los Angeles 66, California

Large figure eight with 8 lanes of high speed racing every Sunday evening at 7:30 p.m. Also has a road course with 5 lanes. Open 7 days a week from 10:00 a.m.-11:00 p.m.

5th Ave. Hobby Shop, 2505 W. Manchester, Inglewood, Calif.

Has six lanes of road racing, each lane is 96 ft. long.

Hours: Monday thru Friday 4 p.m. to 10 p.m.

Saturday — 10 a.m. to 10 p.m.

Sunday — 12 noon to 5 p.m.

Pico Drag Center, 9316 E. Whittier Blvd., Pico Rivera, California

Road track is 151 ft. 6 inches on #1 lane 151 ft. 5 $\frac{1}{2}$ inches on #6 lane. Earl Overbeck and Duane Harrington are also building a drag strip at the same location.

R. E. Owens, 666 North Tustin, Orange, California

This $\frac{1}{4}$ mi. drag strip is complete with 1:00 sec. timing clock. Cars run on standard voltages of 16, 22, 26, 32 & 36 volts. Races are held every Saturday at 6 p.m. In the near future, road racing will be held on a new course every Monday at 7:30 p.m.

Maxport Slot Car Racing Club, 5 Sellmar Rd., Weston Ontario, Canada

Club has three tracks which run once a week. The Canadian Grand Prix will be held on November 29, 30, and Dec. 1, in Toronto. Anyone wishing to enter personally or by proxy contact George Maxwell for details.

The foregoing information is presented as Model Car Science's first attempt to list local slot racing tracks. Many local tracks and clubs have not been included in this initial directory. If your local track or club was not listed in this issue, it will be added in a subsequent issue free of charge, if you promptly notify: Model Car Science, 171 S. Barrington Pl., Los Angeles 49, California.



model car COMMENTS

By Jim Keeler

With the Revell-Pactra National Open Custom Car Contest now in full swing, the question: "What can I do to build a winning model car?" arises. There are, of course, many answers and I will examine each question and give you an answer based on my experience of entering and judging many model car contests.

What is the most important thing that goes into the construction of a model car? Time? Money? Materials? You guessed right if you said time. When a contest judge carefully inspects each model all details show up, good or bad. Is the car designed, assembled and painted carefully? Every little flaw and each neat detail stands out in his mind. The best way to assure yourself a trophy in every type of contest except "speed building" is to allow yourself plenty of time for each phase of construction.

Body work should be carefully inspected for rough spots. If any are found, time should be taken to sand them smooth.

When wiring the engine and installing fuel lines, you should spend some time doing a little research on a real engine to make sure your wiring and fuel lines are correct and feasible. Each piece of tubing or wire should be carefully bent and installed with just the right amount of cement to hold the part in place.

With almost any model, the paint job is the last step in construction — and with many builders it's the thing they rush so they can enter a contest the same day. Nothing on a model car is as important as the paint job for it will either attract or repel a judge the minute he sees it. I've seen beautifully designed and outstanding models with paint jobs that look like dust collectors! Color too should be considered, for example, you should never paint a radical custom black. A light color would be better, and with today's spray can custom paints, it's easy to combine two colors and create a very original and outstanding paint job.

With time and the paint job being the major factors in a winning car, what are some other important items?

Practicality and attention to scale should receive your attention. At almost every contest I've seen there is at least

one car with a top that has been chopped so much that a driver would also have to chop his neck in order to sit in the driver's seat! Then too, there is usually a car that is so low that even in 1/25 or 1/24 scale it drags bottom.

As a judge, I've also been "bugged" by the 1/25 scale car that uses terry cloth or towel material for seat covers. If that model car were made full size, the loose threads on the seats would be at least ten inches long! Quite a "hairy" experience!

If you are building a street machine, your car should be equipped with all the items your state law requires, such as headlights, taillights, windshield wipers, etc. Likewise, if you build a wild competition car, you should follow some basic rules such as those set forth by the American Hot Rod Association or the National Hot Rod Association. If you follow these rules, your model will fit in a specific class such as A/street roadster, and would be completely authentic down to the scattershield on the flywheel and clutch housing.

Every model car builder should be able to use some of the above hints to build a winner for that next contest.

Remember, if you have any suggestions, questions or comments on model car building send them to Model Car Comments, c/o Model Car Science, 171 Barrington Place, Los Angeles, Calif., 90049.

Because of the volume of mail, all letters cannot be answered personally, but those with the most general interest will be answered in this column. Here are some of the questions selected to be answered this month.

"In the first issue of Model Car Science you mentioned that Aero Gloss Rubbing Compound was good for model car paint jobs. Can you tell me where I can buy it?" Gary Krueger

Burlington, Ontario, Canada

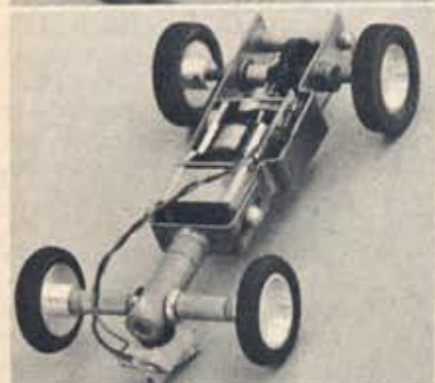
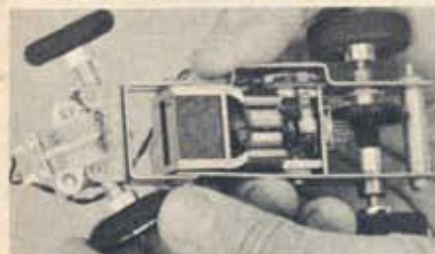
Aero Gloss is made by the Pactra Co., Los Angeles and should be available at your local hobby dealer. If not, write Auto World, Box 961-M3, Scranton, Pa.

"Where can I get white rubber to use for running boards?" Jake Bagnell

Chula Vista, Calif.

Scotch Brand plastic tape is available at dime stores in several colors and looks like rubber.

NEW TO SCALE



From the new Unique Engineering, at 5629 Corryne Place, Culver City, Calif., comes the first of a long forthcoming line of slot racing products. Steerable front end and rigid-front chassis are now available assembled, partially assembled, disassembled or as individual components in either 1/24th or 1/32nd scales. Already proven in stiff competition, the amazingly low priced steerable chassis in 1/24th sells for a low \$10.95 with Pittman DC70 motor — completely assembled, pre-tested and ready for a body. Individual parts and component chassis also carry economical price tags. Write to this new but hustling firm for a complete rundown on their numerous slot racing parts.



The official 1/32 scale Pit Garage is one of four new track-side building kits now being offered by Strombecker, manufacturer of complete model road racing sets and accessories.

Realistic 1/32 scale detailing is found in the doors, stairs, railing and brickwork. The Pit Garage Kit comes complete with customizing decals and assembly instructions. Retail price is \$1.95.

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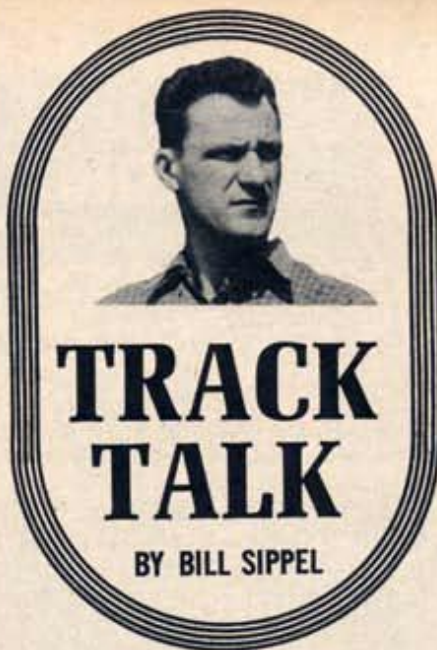
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CARS FROM
ACROSS
THE U.S.A.



TRACK TALK

BY BILL SIPPEL

Having just completed an extensive tour around the country it appears that 1/32nd scale slot racing is the only one really organized . . . no area can compare with Southern California for commercial boom of slot cars and equipment . . . but the Midwest is 'way ahead of So. Calif. in organized clubs, scales and meets.

Electric drag racing is not too strong outside of California . . . changes in present draggin' rules could easily alter this . . . as strips are not too easily found in hobby shops, clubs are looking for areas 100 to 130 feet long . . . that would take some basement!

To stimulate variety, special racing events should be staged . . . Rockford, Ill., Scale Raceways ran slam-bang stock cars in July to let off steam . . . their normal is concourse-type GP and Sports in 1/32nd scale . . . the Glendale, Calif., club built some old Indianapolis cars (see this issue) with special rules for construction.

No other hobby I know of has boomed as fast as slot racing . . . this has brought a rash of merchandise onto the market to vie for the commercial dollar . . . be sure you shop well . . . you hold the trump card . . . your purchases determine the quality of your cars and the type of equipment that will remain on

the market . . . did you know *YOU* were the biggest person in racing?

It has been asked why we prefer batteries for racing power over house current . . . we feel it is the best way to go . . . pure DC cannot be matched in amp output at anywhere near the dollar range . . . to match the battery and supply the desired need to handle drag as well as road racing, 50 amps should be available.

And speaking of power supplies, I'll be glad to see the day when all powers are equal (batteries do this now!) . . . it is not uncommon to go to a track where it is claimed the local boys are really fast and find 18 to 24 volts being pumped into what is claimed to be a 12 volt road course . . . when these Hot Thumbs hit a 12V track they're duds . . . the high voltage compensated for poor tuning and they are left in the also-ran department . . . 12 volts and fine tuning will get you further, regardless of conditions . . . I'd like to hear your pros and cons on this.

Eighth-mile drags for real are not uncommon, so why not for the electrics? How about power for 22 feet for cars up to and including 1/30th scale and 27.5 feet for cars up to an including 1/24th? This would help hold speeds within reason and put a greater variety of motors into the winner's circles . . . also, speeds would be down to where "brakes" in the shutoff area would be effective . . . another step would be that cars look more realistic and electric motors be completely hidden . . . to make economy racing, the smaller classes could be non-ball bearing and with a retail price on motors limited to \$4.00 or \$5.00 . . . and perhaps voltages could be dropped to classes of, say, 12, 15, 18, 21, and 24 V's . . . scale speeds would still be extremely high and races impressive to spectators.

Your editors have arranged to present the news and views from an English correspondent each month, starting with this issue . . . Britisher A. M. L. Kennaugh regularly contributes to the English *Model Maker*, a highly respected publication that deals with all models . . . Kennaugh knows whereof he speaks, and we'll be learning some real secrets . . . glad to have him aboard.

Until next month . . .



WHERE DO YOU GO FROM HERE?



You can take it from the Strombecker team of drivers...once you have your basic set, the speed and realism, the all around fun and action of Strombecker slot racing have just begun!

For that extra bit of "all-out" speed that can make you a winner, Strombecker drivers choose from service accessories that include the new Competition Accessory Group; Steel Drive Gears; Brass Body Weights and Weighted Body Putty... and for even greater racing car realism, there's Ackerman Steering; Headlights; Spoke Wheels and $\frac{7}{8}$ " Tires! When it comes to big layout realism, Strombecker tops them all with four new Track-Side Building Kits; Automatic Lap Counters; Chicane and Hump Tracks and complete Track Customizing Kits! You name it and Strombecker makes it with fine, authentic detailing—in official 1/32 scale! No wonder Strombecker drivers set the pace in the world of model road racing! See Strombecker's 12 famous racing machines, built-up and in Custom Kits, and the complete line of pit and track accessories at your dealer today! Send 10¢ for Table Top Topics to: Dept. CS-10, Strombecker, 600 N. Pulaski Rd., Chicago 24, Ill.



STROMBECKER®

Did YOU Miss our first issues?

APRIL, 1963 — The first issue of MCS contains 60 pages of timeless articles for every model car fan. How to construct a Competition Coupe, custom model interiors, sectioning, painting and much more. Table Top fans will find stories on how to build a track and how to convert models to slot racers.

JUNE, 1963 — The second MCS presents six great full-size rods and tells how to build the models. There are tips on channeling, metal models and step-by-step instructions for a Fiat-bodied dragster. There is a survey of motors for electric racers and a big report on slot drag racing.

AUGUST, 1963 — A big issue packed with easy-to-read reports on customizing powerplants, a survey of seats and part I of the building of the MCS X-1 dream car. Slot racers are still talking about our plans for a hill-climb track and the full instructions on making a full race Ferrari from the Strombecker kit.

SEPTEMBER, 1963 — More great cars and custom building tips. Part Two of how to build the MCS X-1 and a big survey of tires and wheels. Full reports on cementing and vacuum forming. For the table top enthusiasts there are plans for authentic pit areas and how-to-do-it advice on making economy racing specials. There's also a big article on H.O. scale.

Still a few left SEND TODAY



MODEL CAR SCIENCE

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Please send me the issues checked. I include 50¢ for each, which also covers the costs of mail and handling.
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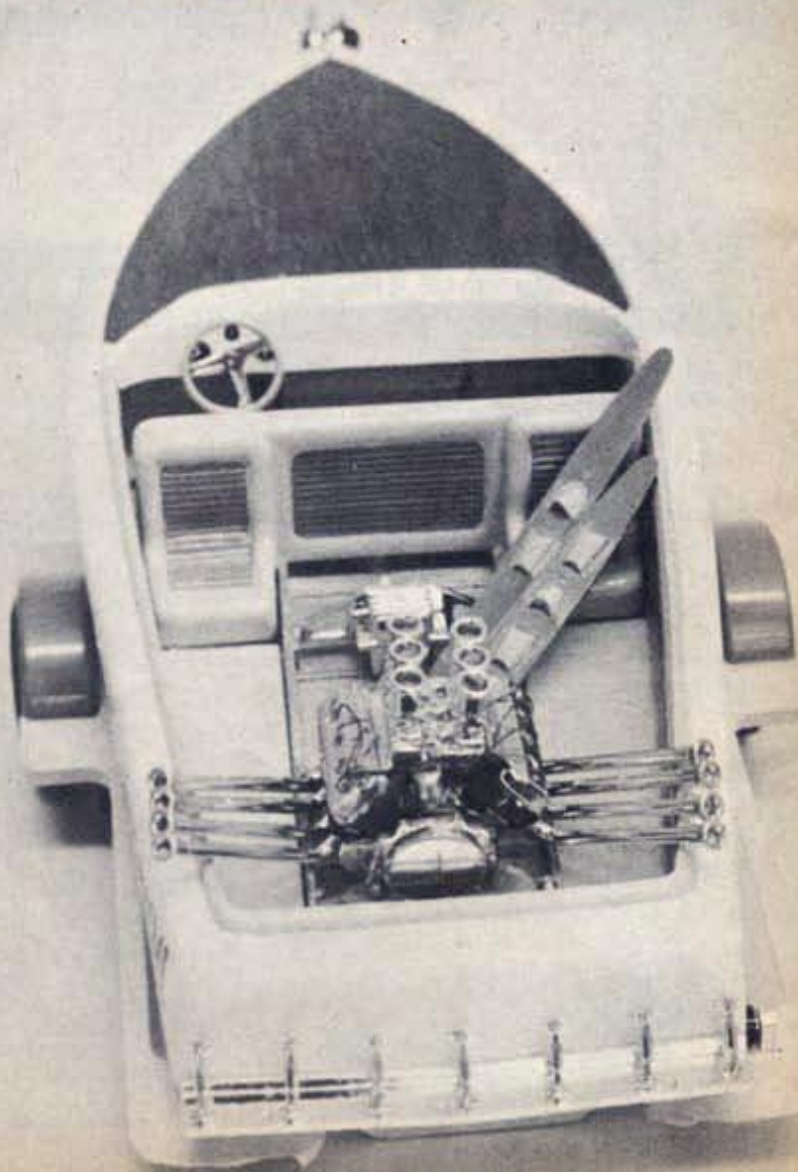


FIRST REPORTS —

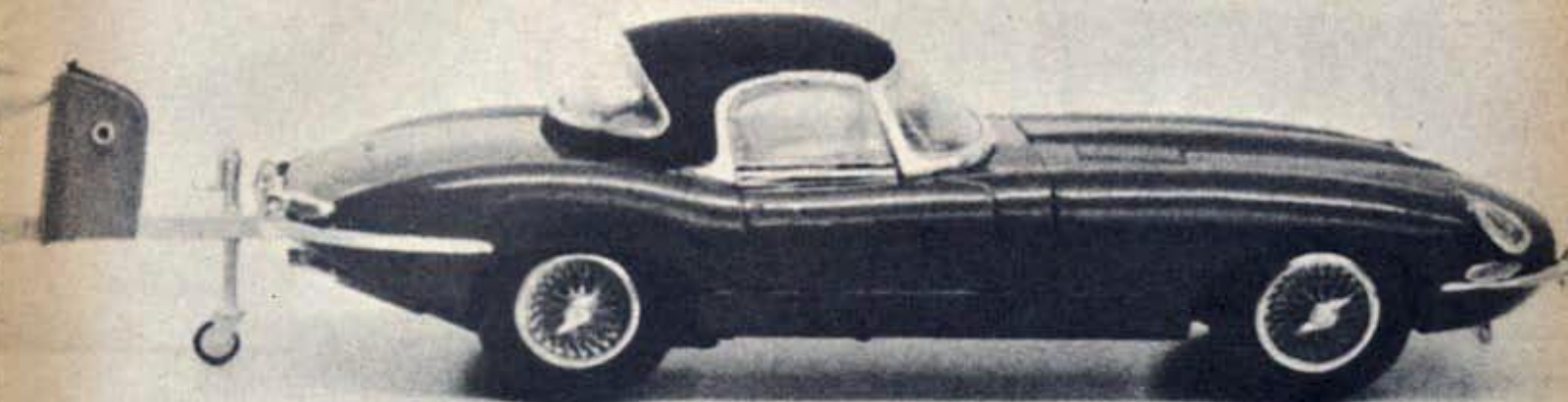
VAROOM

Here's a "go and show" drag boat with trailer by Revell. In 1/25th scale, this speed boat can be built for drag, ski or custom. It has a detailed Chrysler V-8 engine, custom pipes, adhesive-backed solid mahogany decking and bucket seats. The two-wheel trailer has an operating winch and a chrome trailer hitch. The \$1.98 price tag even includes a pair of 1/25th scale water skis.

There's nothing nautical about that powerplant. It's a big Chrysler with Edelbrock manifold and six Stromberg "97" carburetors.



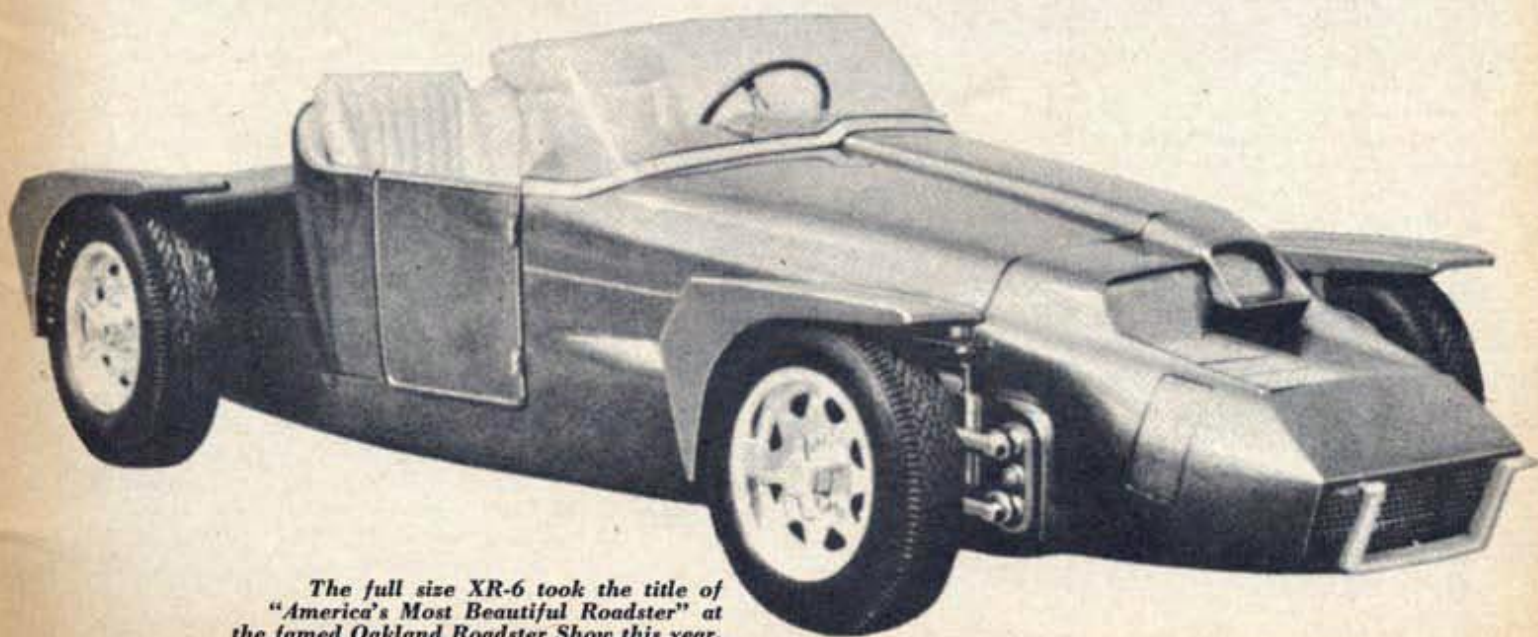
*A happy combination of hot rod and
and pleasure boat, the Varoom fits
into the dreams of every enthusiast.*



WHAT'S NEW in CAR KITS

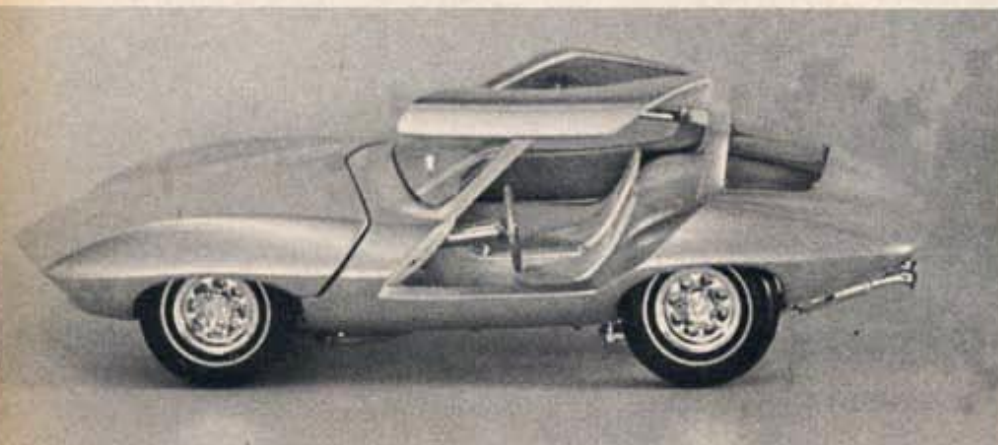
XR-6

Fresh from a triumphant tour of some of the nation's top custom car shows, Tex Smith's XR-6 roadster will now be offered in 1/25th scale by AMT. This hot rod of tomorrow is powered by a Dodge slant Six engine. Its very different styling seems a combination of Ford roadster and European sports car.



*The full size XR-6 took the title of
"America's Most Beautiful Roadster" at
the famed Oakland Roadster Show this year.*

PARADE OF CHAMPIONS



A strong contender for top prize is this custom Vette by Charles Gibilterra from Los Angeles.

As this issue goes to press, the Revell-Pactra Model Car Contest is nearing its initial "sunset." Qualifying entries have been arriving at the Revell judging warehouse by the truck load.

According to a spokesman at Revell, there were approximately 2400 Revell-Pactra Model Car Contests held on the dealer level in all parts of the country. Each of these shops held their own competition and selected four winners, Senior, Immediate, Junior and Best Paint, and packed each of the model cars in popcorn to prevent breakage.

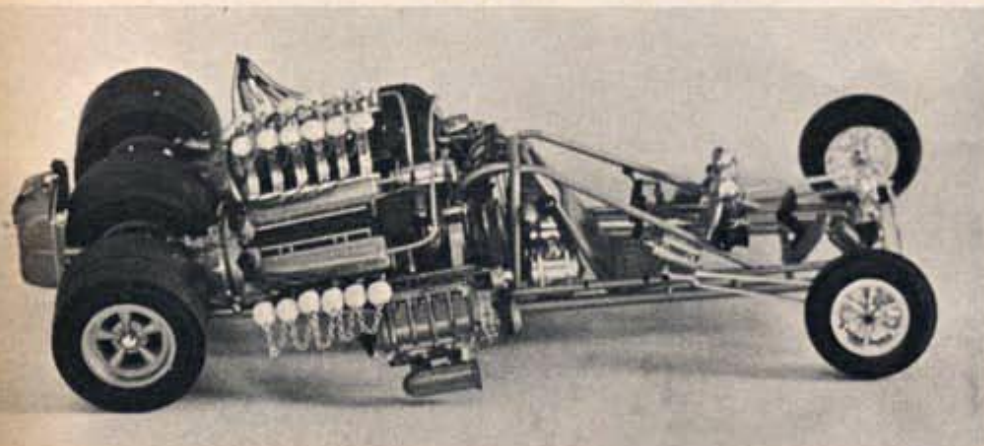
As of this date approximately 875 cases of model cars have been received at Revell. There are four cars to every case; therefore, approximately 3500 model cars waiting to be evaluated. But the contest isn't over with yet, and many, many cars are yet to be received.

These model cars, each being a first place winner in a different contest, reflects automotive fads and concepts from different parts of the country. There are conservative street machines from the east, customized sports cars from the south, and wild and way out dragsters and show machines from the west.

The judges, Ed "Big Daddy" Roth, Dean Moon, Tommy Ivo, Mickey Thompson, and Doug "Cookie" Cook, will have a difficult time selecting the top winners; but, when the winners of each division are selected, they will be brought out to California by American Airlines for a four day visit. Highlights of this visit will be an awards banquet at the Disneyland Hotel, guest appearances on the Steve Allen Show and on the Panorama Pacific Show, a day at Disneyland, a tour of Ed "Big Daddy" Roth's customizing shop and Mickey Thompson's speed shop, plus dinner in Hollywood at the Brown Derby.

The next issue of Model Car Science will have a final count of the number of cars entered in the Revell-Pactra "Open" and photos of the winning entries.

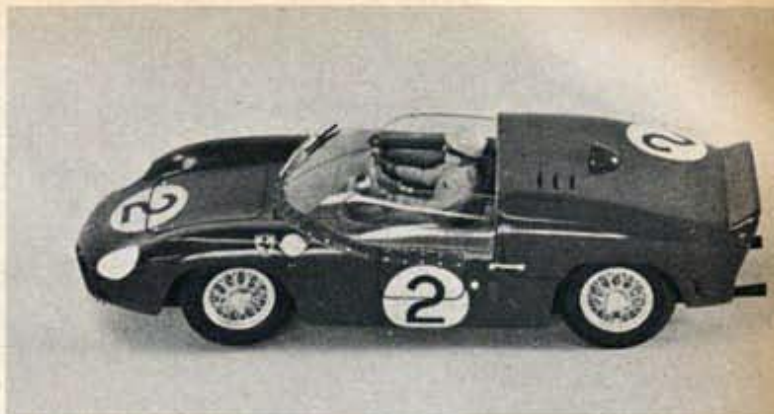
During the coming months we will be running photos of many of the cars that have been entered, so that you may have a better idea of how tough the competition really was.



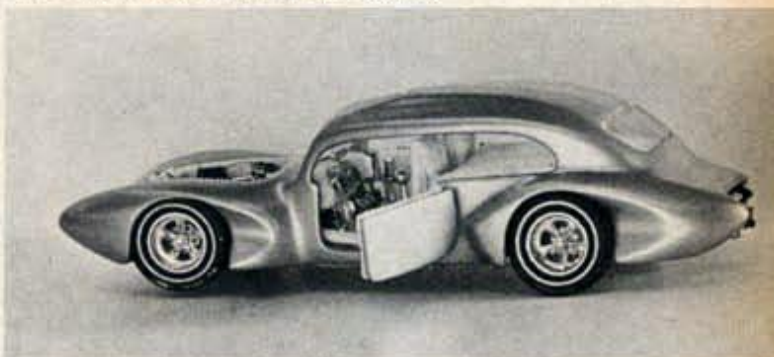
Carl Dunn, from Sacramento, Calif., designed this twin Allison dragster.



Opening doors & hood, plus a detailed two wheeler are featured by Joe Lipman.



John Shockley of Fullerton, Calif., entered this scratch built Ferrari in the Sr. div.



This unique customizing was done by Lonio Stern from Panorama City, California.



Scott Lorigan, age 16, from Sacramento, Calif., entered this AMT '40 Ford.



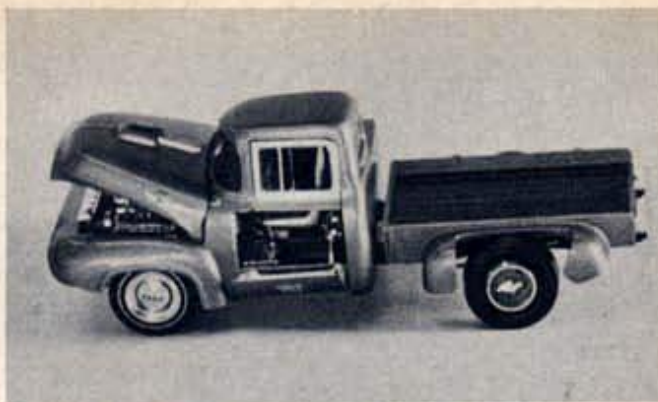
This Kandy Apple Red Woody was built by Harry Barrio and entered in the Senior division.



Gary Saltz tried something entirely different with his '40 Ford entry.



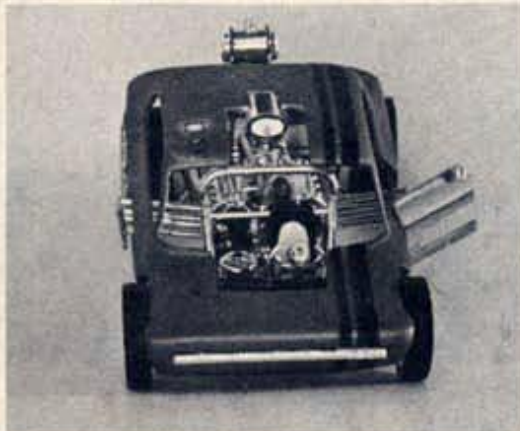
Bill Hallenbeck's modeling genius gave birth to this bright yellow dragster.



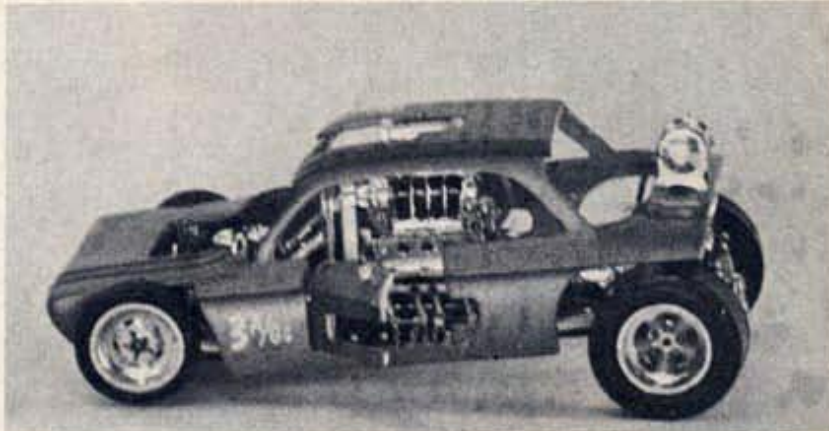
This Ford pickup shows unusual door opening treatment. It was created by Donald Sayrizi.



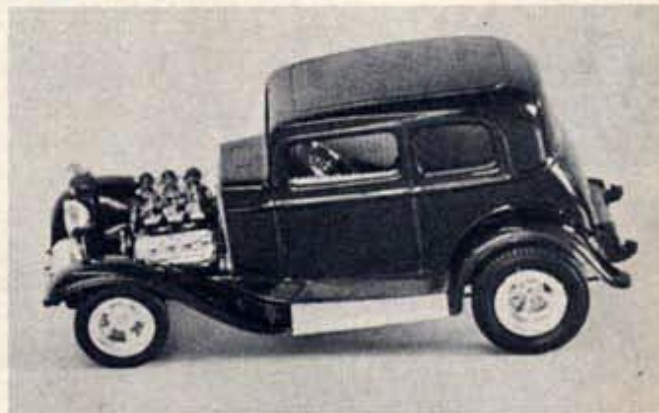
The body on this sleek model was carved from California Red Wood by Robert Cargill.



Michael Gasser from San Mateo, Calif., designed this wild competition coupe.



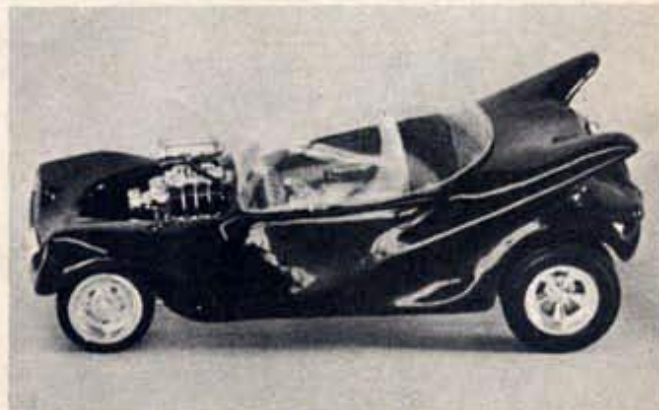
Roger H. Bice displays his building skill with this fully upholstered '63 Corvette.



Entered in the Junior division was this '32 Ford Victoria by Tim Eytell.



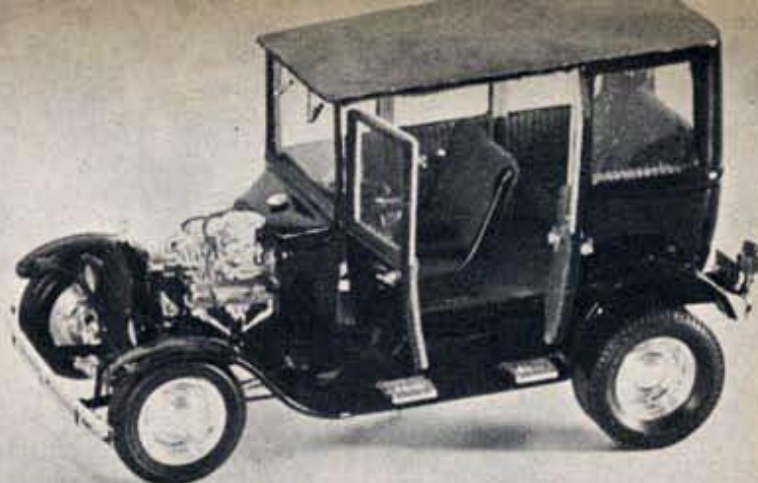
Noted for its outstanding paint job was this T-Bird by Joe Strickland.



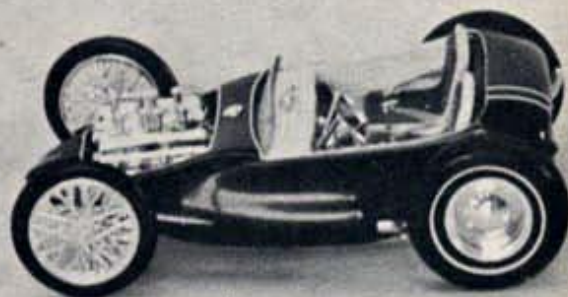
Dave Minick displays his talent with a real swinging custom roadster.



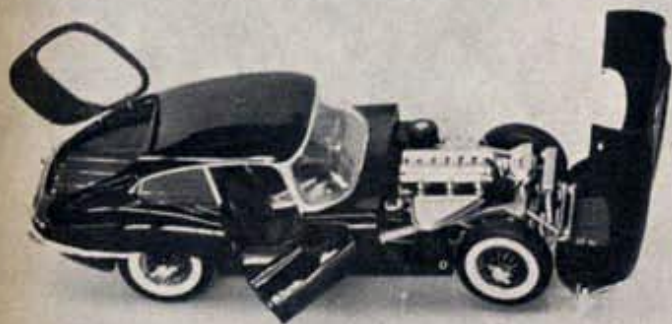
Expert detailing on a full interior makes this 'T' sedan by Gary Wright complete.



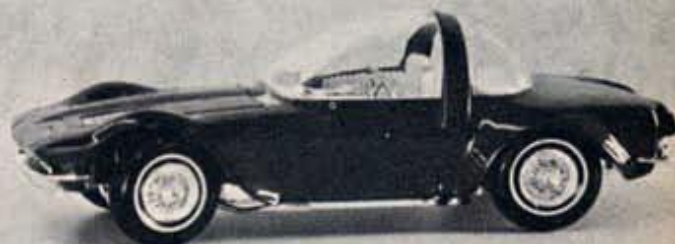
Opening doors and removable hood are featured on this Ford Wagon by Perran McDaniel.



From Burlingame, Calif., comes this custom roadster built by P. Tobolsky.



This gleaming jet-black Jaguar was entered in the Paint division by John Shockley.



Paul Hirata from Honolulu, Hawaii, is contending with his highly modified Sting Ray.

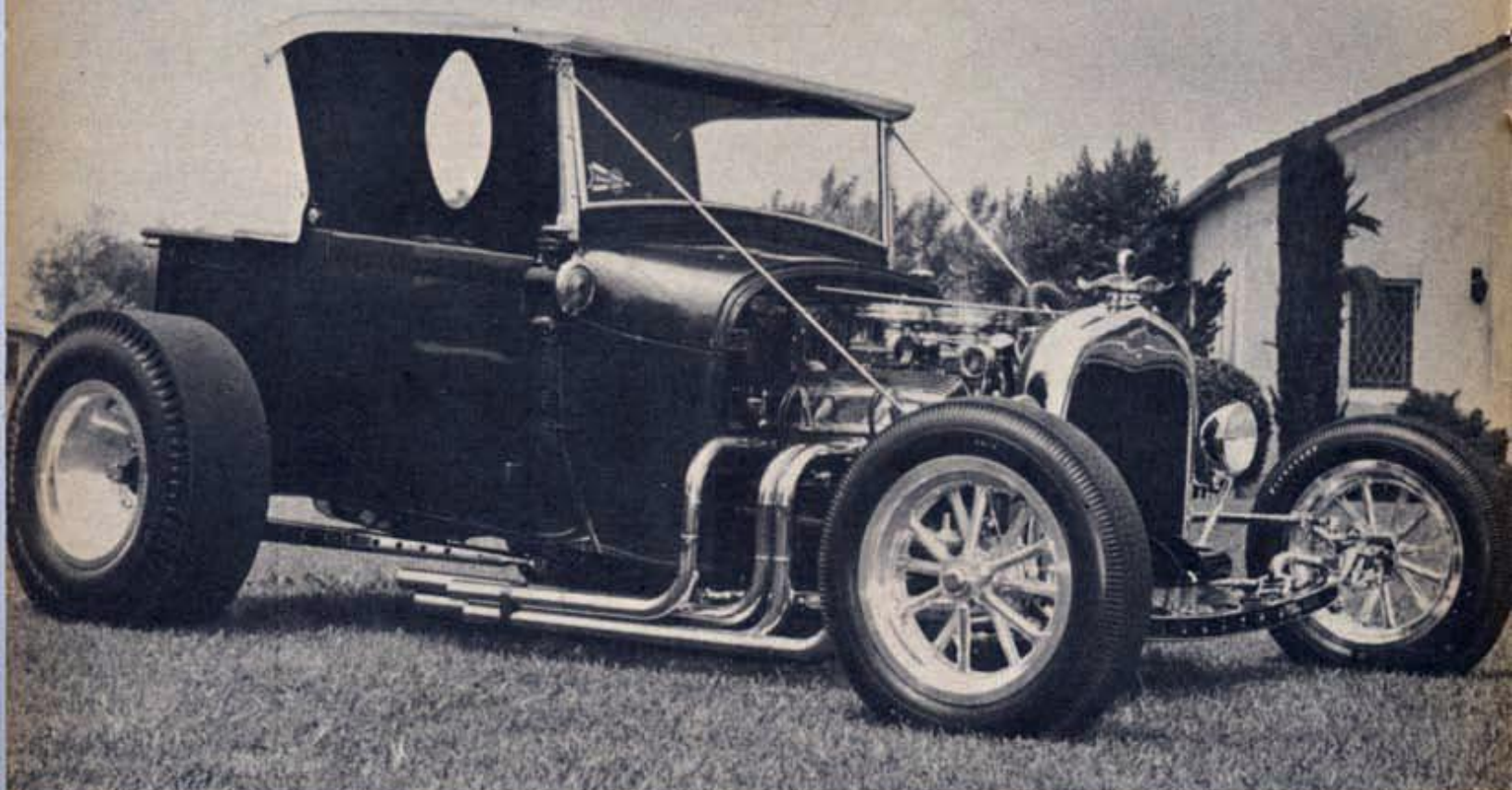


An AMT 25 T combined with Revell's Custom car parts went into Dale Wallace's entry.



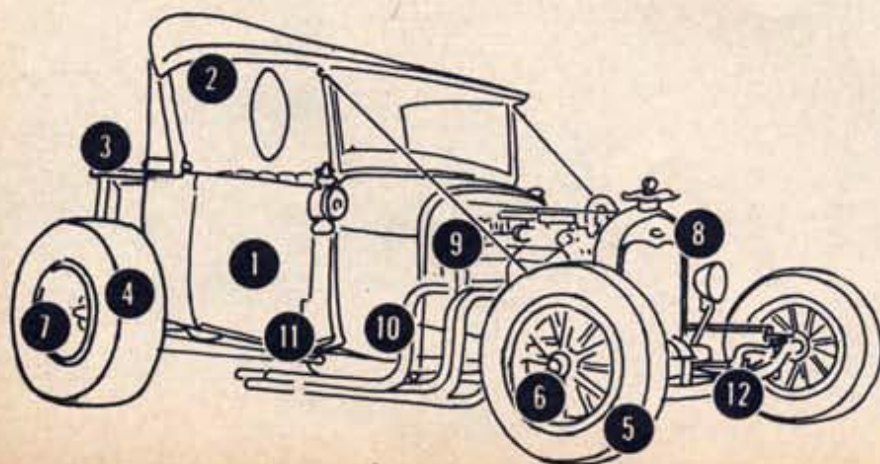
Guy Hutton created this sleek, blue '57 Ford custom hardtop.

GREAT CUSTOMS ... AND HOW TO



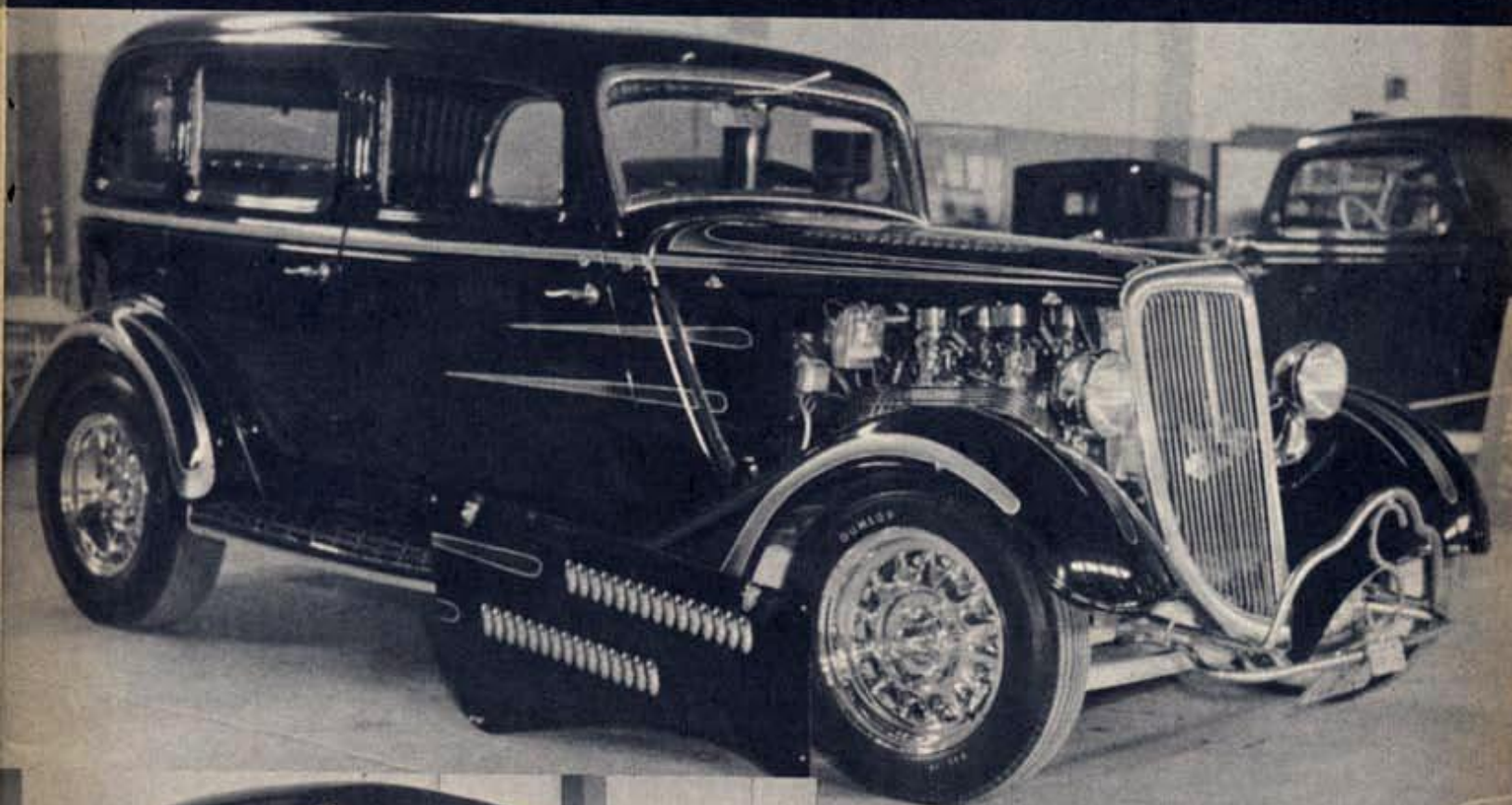
Here's a '29 Model A ready to blast off. Built by hot rodder Arnold Avilia, this earth crawler sports Jeep headlights, a Crosley gas tank, and antique lamps. Body is channeled six inches over an A frame. By studying the photograph and drawing, this car can easily be duplicated using the parts listed below. Admirers of this handy hauler should take note of the oval rear window, slicks and header treatment. As with any model, care in painting can make or break it. All in all, construction time shouldn't take much more than four hours, and when completed, this pint-size pickup should make a valuable addition to your shelf.

"A"-O.K.



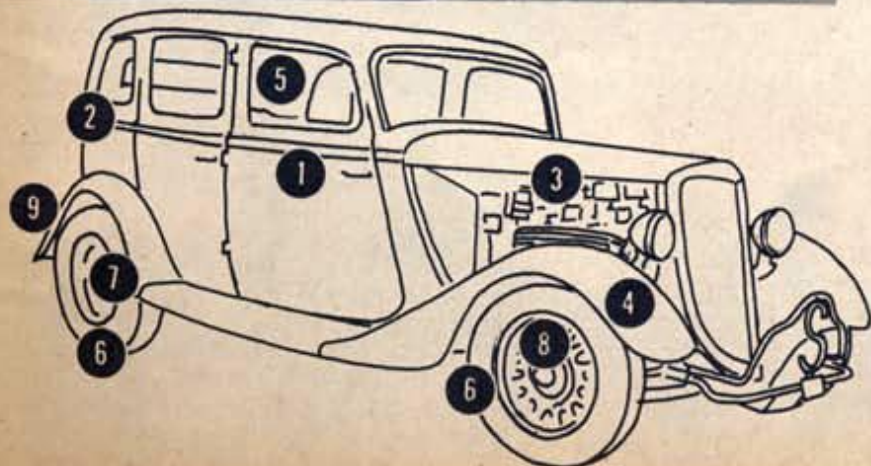
1. BODY — AMT '29 Ford with rear section removed and flat piece installed.
2. TOP — Modified AMT '25 "T" top on Revell Tweedy Pie top
3. PICKUP BED — Revell's '23 "T" body kit
4. & 5. REAR SLICKS and FRONT TIRES — Revell Competition Tire kit
6. & 7. FRONT and REAR MAG WHEELS — AMT Dragster kit
8. RADIATOR — AMT '29 Ford kit
9. & 10. ENGINE and EXHAUST HEADERS — Revell's "Outlaw" kit
11. FRAME — Revell's '23 "T" Frame kit
12. RUNNING GEAR — Revell's Roadster Chassis Speed equipment kit

and HOT RODS BUILD THE MODELS

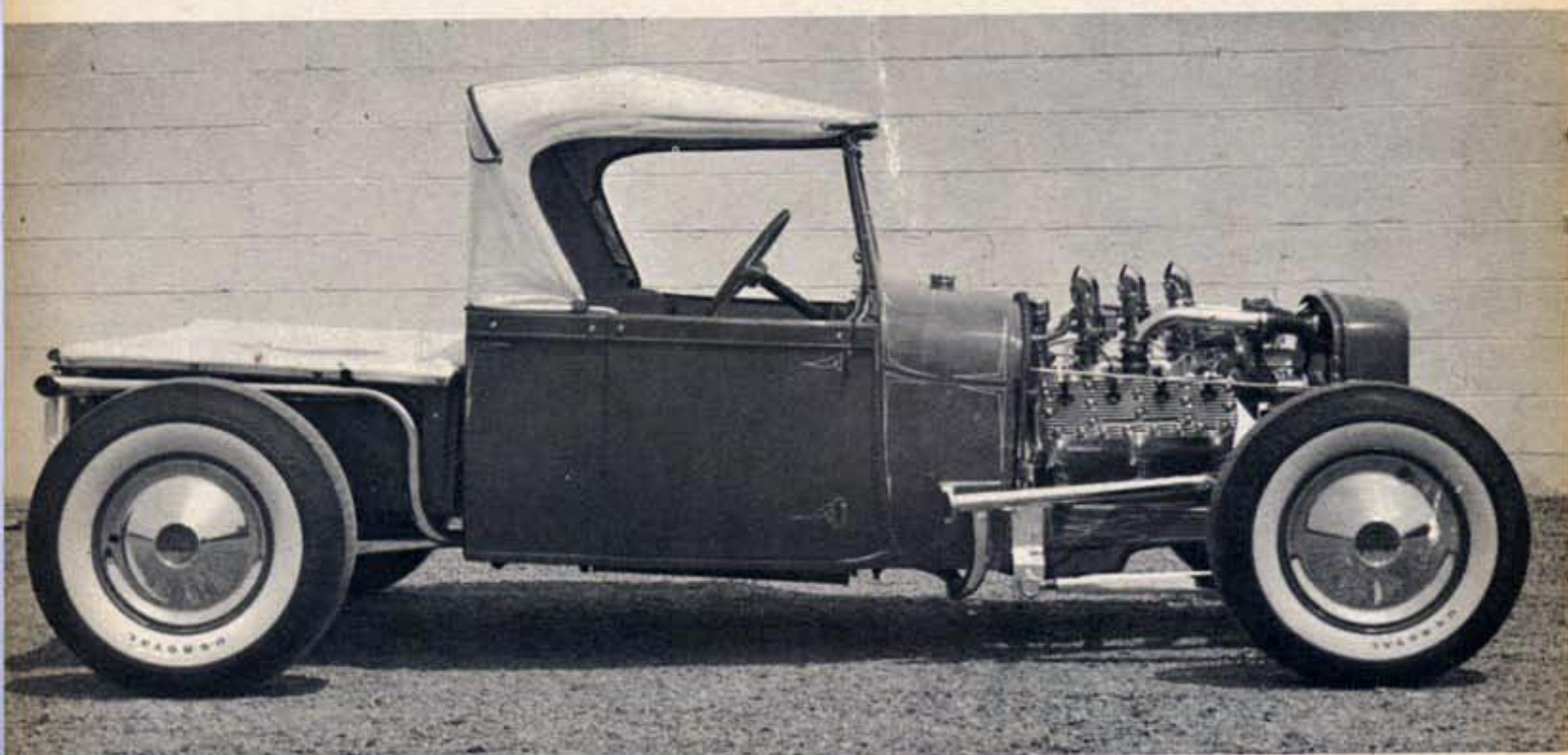


'34 VICKY

This 1934 Victoria is as popular for model customizing today as it was twenty years ago. Boasting flawless paint, special wheels, nerf-type bumpers, this example is neither chopped nor channeled and should be relatively easy to duplicate using the parts mentioned below.

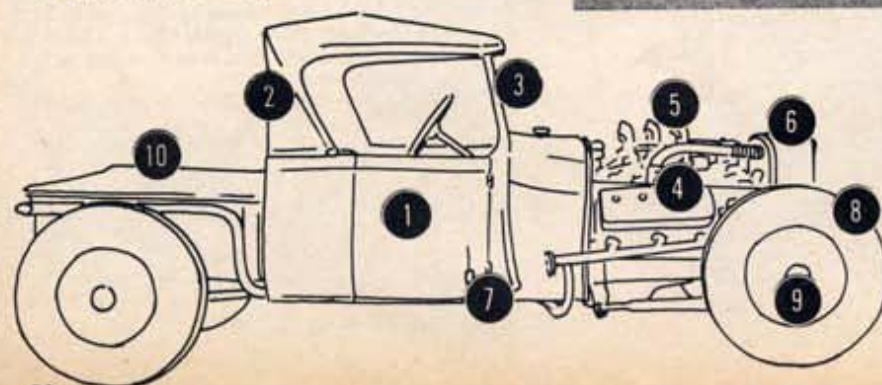
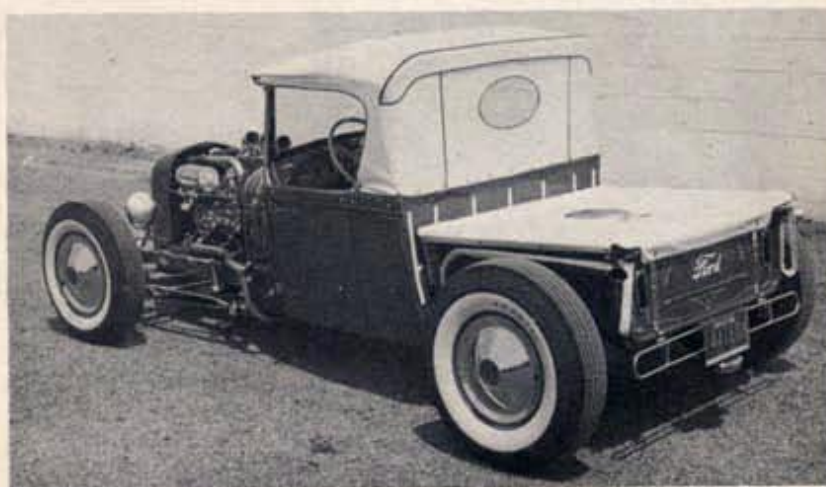


- 1 & 2. BODY — Made by cutting the rear portion from Monograms '34 Ford and rebuilding the new four door body. By using sheet styrene and a second set of Monogram's '34 Ford Coupe doors, a difficult job becomes almost easy.
3. ENGINE — From Roth's "Outlaw" or the Revell Custom Car Parts Cadillac V-8.
4. FENDERS — Monograms '34 Ford.
5. PLEATED AND ROLLED LEATHER — Use strips of leather or plastic lacing.
6. FRONT AND REAR TIRES — Dunlop tires from Revell's Jaguar Kit.
7. REVERSED RIMS — Revell's Custom Car Wheel kit.
8. FRONT WHEELS — Silver painted Monogram '34 Ford rims.
9. REAR NERF BAR — Roth's "Outlaw"

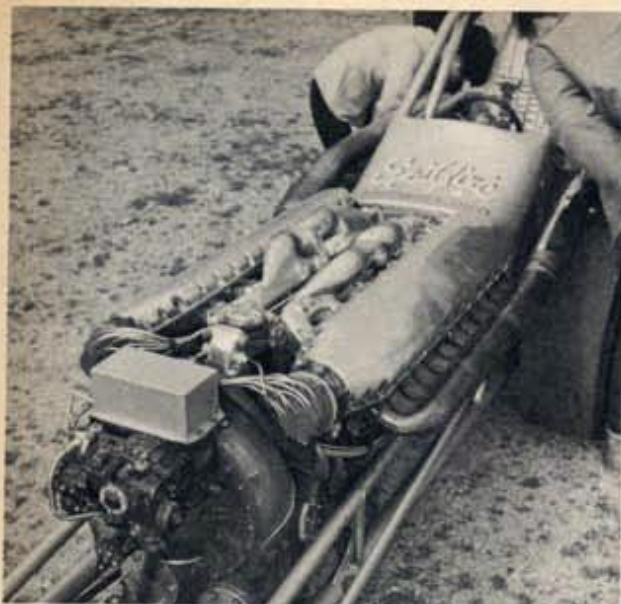


PRIZE PACKAGE

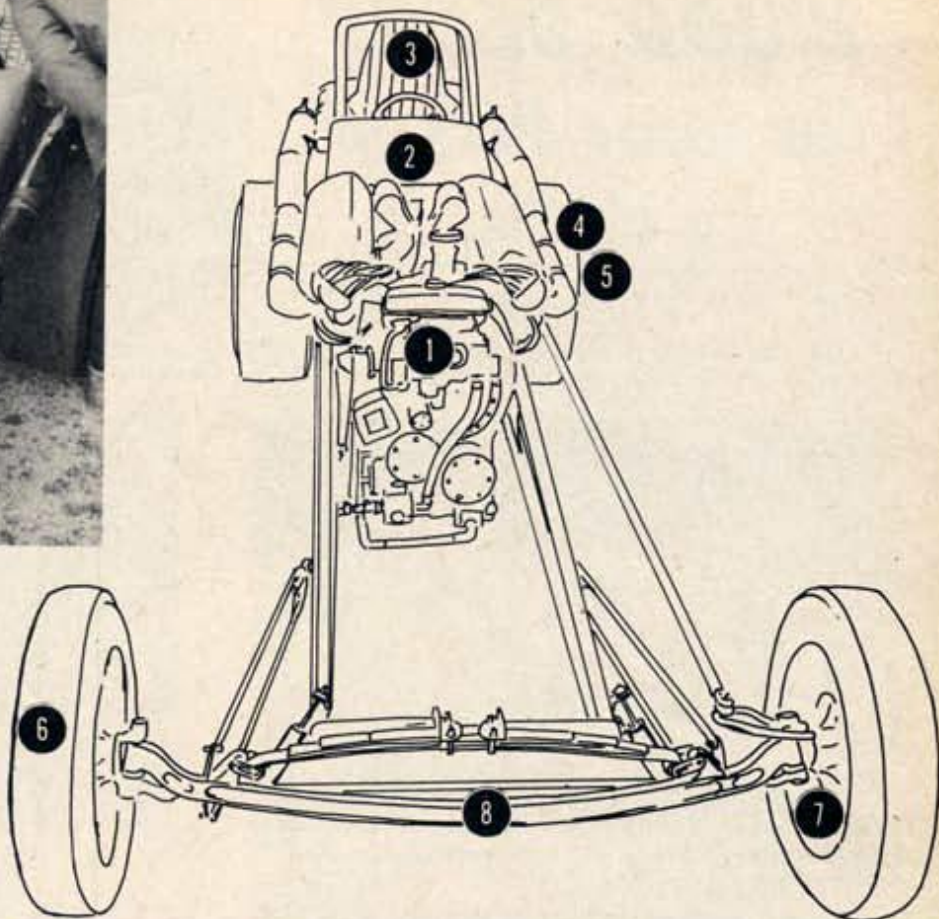
Herm Rost startles citizens in Ft. Wayne, Indiana, with this '29 A which he has channeled four inches over the frame rails. If built with the same care and precision as the real thing, a model should prove equally startling. The brilliant paint is trimmed in gold, and set off with a white top and matching bed cover. Herm has selected a flat head Ford engine. There is no protection at the front but the rear is set off with handmade tubular nerfing bars, formed to fit the back panel. Inside the bed Rost has added an elaborate first-aid kit and gas tank. The model builder should take careful note of the details on the body, bed cover and top. Deck cover lends itself nicely to a personalized design.



1. BODY — AMT '29 Ford Roadster with back end chopped and flat piece inserted
2. TOP — Modified from AMT 32 Ford Roadster
3. WINDSHIELD — AMT '29 Ford
4. FLATHEAD ENGINE — AMT 49 Ford
5. CARBURETORS — Revell Tweedy Pie or chopped AMT '32 Ford Roadster
7. FRAME — AMT '29 Ford
8. FRONT & REAR TIRES — Revell's Big and Little Roadster tires & wheels
9. HUBCAPS — AMT '57 Chevy
10. PICKUP BED — AMT '25 "T" Roadster



1. ALLISON ENGINE from AMT Hot Rod Shop
2. DRAGSTER FRAME — Revell Custom Car Parts
3. SEATS — AMT Model T or Revell 23 "T" Body Kit
4. M&H DRAG SLICKS — Revell Competition Tire Kit
5. WHEELS — Revell or AMT Mag wheels
6. PIRELLI FRONT TIRES — Revell Competition Tire Kit
7. FRONT WHEELS — Revell Mag Wheel Kit
8. FRONT AXLE, SPRINGS, SHOCKS — Revell Roadster Chassis Speed Equipment Kit



ODD ROD

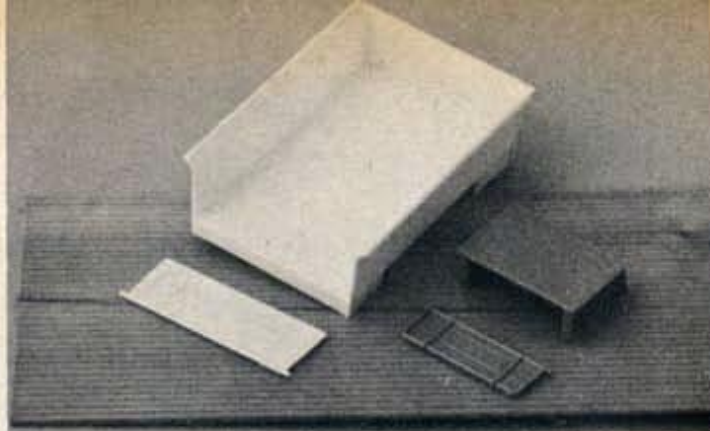
While jet-powered monsters are providing modelers quite a challenge, they are not the only aircraft power source available for a hot dragster. Still in the running are the piston punching 12-cylinder Allison's, such as the one shown here by Lee Pendleton from Ashtabula, Ohio. His "Spitfire," a name which certainly has airborne connotations, has been roaring down the strips powered by a surplus Curtiss P-40 engine. The Spitfire has a displacement of 1710 cubic inches, which is just about equal to Tommy Ivo's four-Buick dragster. Behind the controls, Pendleton has turned 181.80 mph! Not much slower than it flew. As with any model utilizing parts not specifically designed to go together, a lot of trial fitting and plastic trimming may be required, but that's part of the challenge of building a truly different machine.



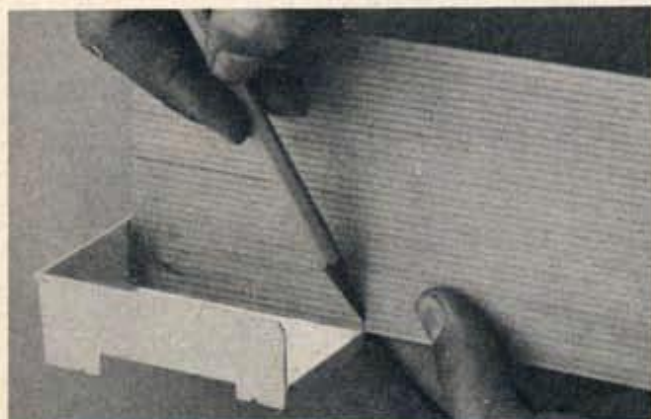
WOOD DECKS for your Pickup

The pickup truck, originally designed as a utility vehicle, is now one of the most popular entries in custom car shows. These models sport the usual chrome and nice paint jobs, but the wood decks in the bed set them apart from all other customs.

By following this step-by-step information, you will be able to add an elegant touch to your custom pickup.



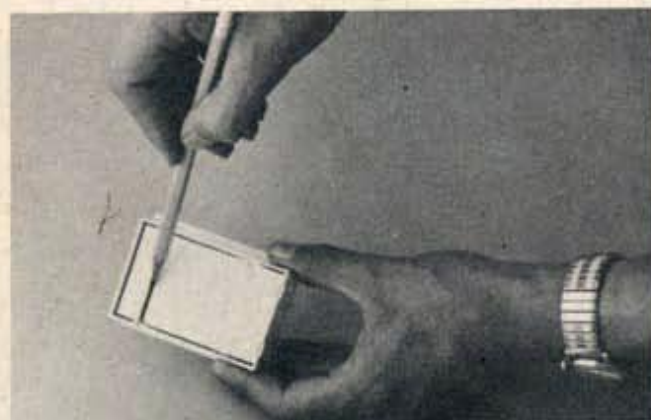
Here are the materials you will need: 3/32 inch groove wood siding, available at your railroad shop, and your favorite pickup bed.



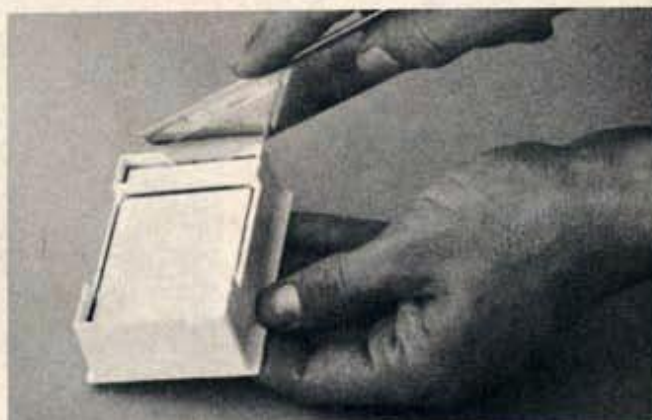
First, carefully measure length of bed and transfer data to the wood.



Using an X-Acto saw, cut a piece of wood to use for the deck.



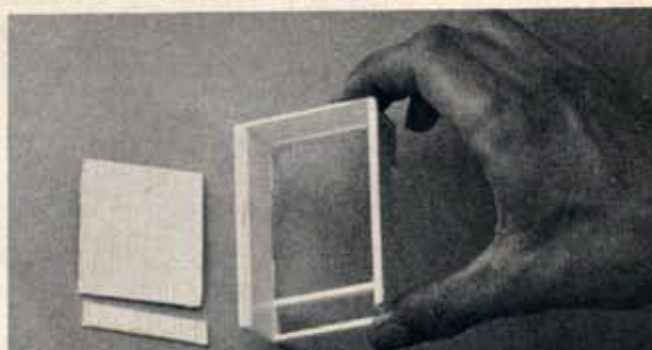
Mark bottom of the bed with a pencil to outline areas you will cut away.



The "trusty" X-Acto saw is used to cut the bottom from the pickup bed. Cut smooth, even lines.



After bed is cut away, use a large file to smooth edges of the sawed areas.



Here is the bed with bottom removed ready for installation of the wood. By using sanding sealer, then fine grain sand paper, you can polish deck to a high luster. Apply sealer before installing deck.

WORKING LIGHTS FOR ROADSTERS and COUPES

Important items needed for installation of working lights on a model include: a pin-vice, a #44 drill and one grain-of-wheat three volt light for each headlight and taillight you wish to do.

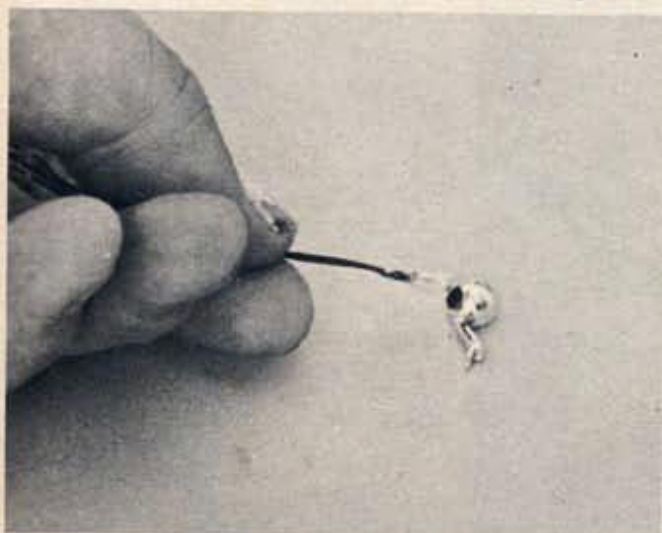
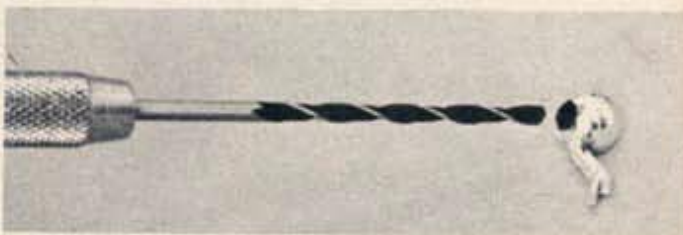
First, drill a hole in the headlight through the back and down from the center. Check fit of the bulb in the hole; it should fit snugly. It may be necessary to file the hole for correct fit.

Now remove the bulb from the hole, glue lens on headlight and set aside to dry.

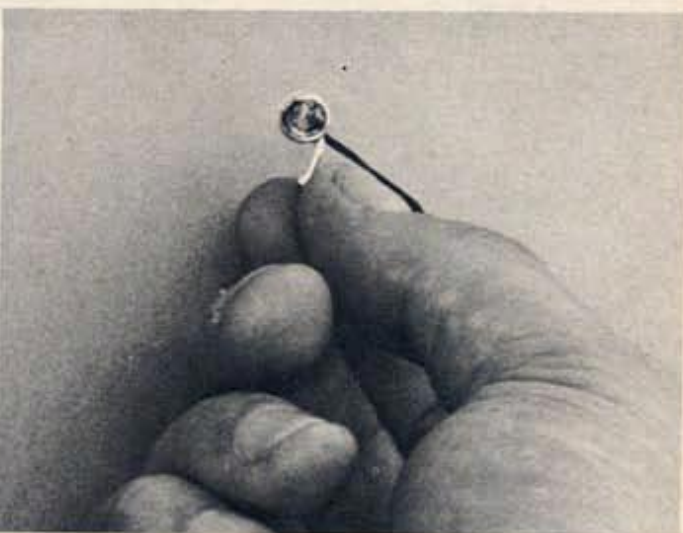
After lens has thoroughly dried, place bulb in its hole so it just touches the lens. Now paint the protruding portion of the bulb a flat black.

For taillights, the grain-of-wheat bulbs can be fitted into some of Revell's custom taillights (c1151). If you are building a special roadster or coupe, you may have to build a special housing for your taillights, and the red grain-of-wheat bulbs can be used as taillights themselves.

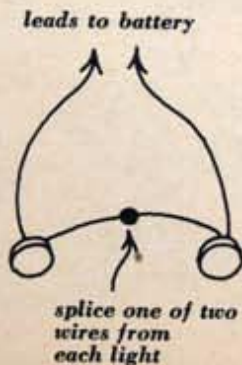
Hole is drilled in back of headlight with a pin-vice.



Grain-of-wheat bulb is inserted through hole in rear of headlight.

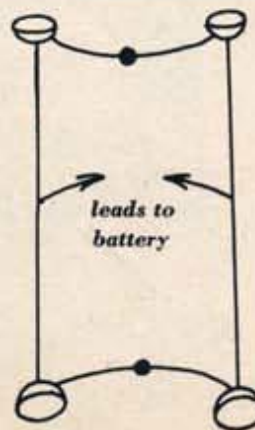


Finished assembly is now ready for the lens to be applied.



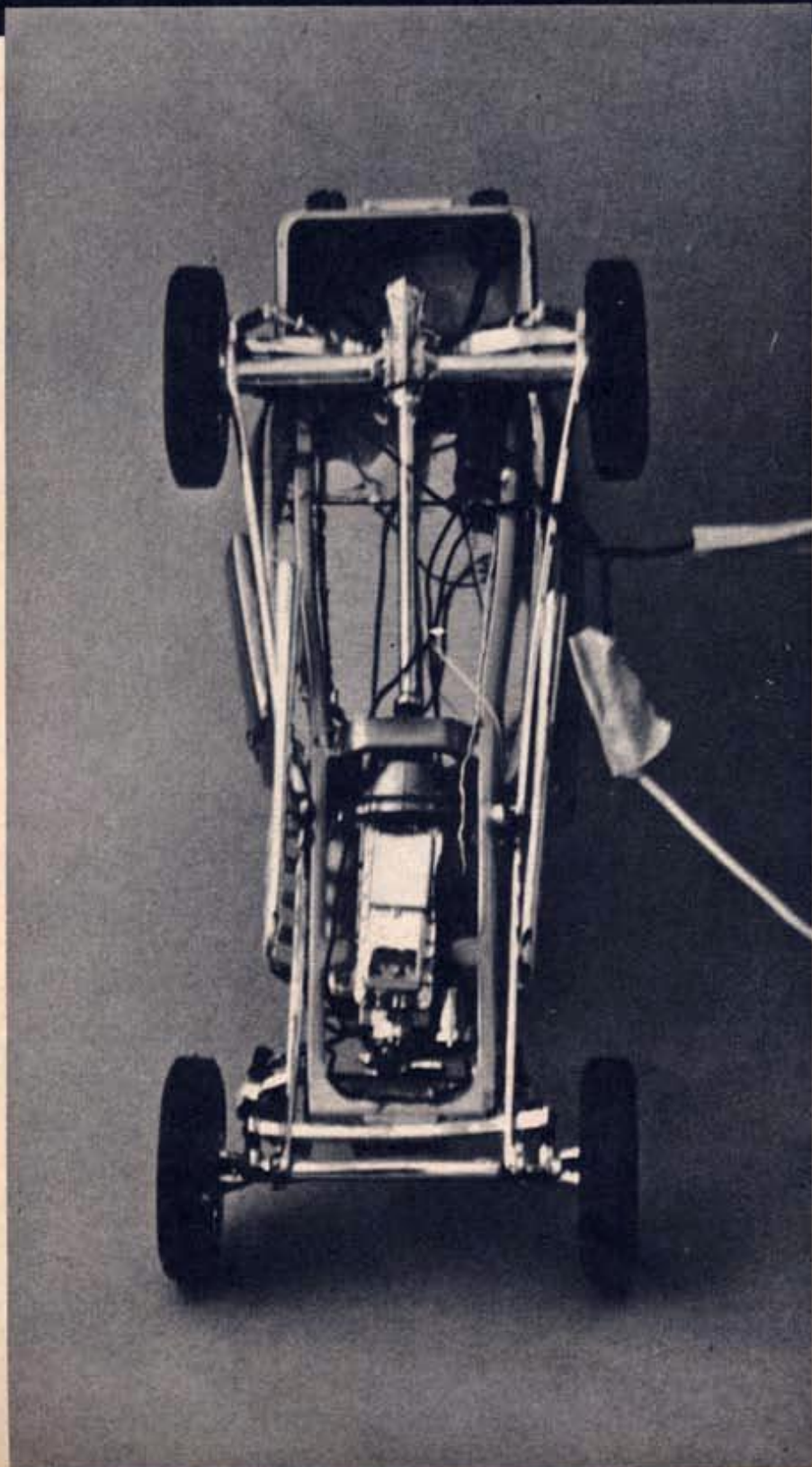
This is the wiring diagram for working headlights only. Since these lights are three volts and are wired in series, a six-volt dry cell battery will be needed for power.

This diagram is for working head and taillights. One wire from each headlight is spliced together and one wire is run back under the body to meet the line coming from the taillights. They are spliced with the leads to the battery. A six-volt battery will also be needed as this is wired series parallel.



DETAILING POWERPLANTS for EXTRA POINTS

By Bob Wagner



Brake lines, headlights, taillights, fuel line, other underbody detail shown here.

In the August Model Car Science, we saw a few of the powerplants currently available. These little engines are quite detailed as they come from the package, but with a little extra work they can be made even more realistic.

One detail that can be added is ignition wiring. A heavy black or red thread may be used for this. One of the easiest ways I have found of doing this is to either drill a small hole through the cap of the magneto or cut off the top section. If you use the drilling method, cut a piece of thread long enough to go from the spark plug farthest away from the magneto through the magneto to the farthest spark plug on the opposite side. Cut three other threads each shorter than the preceding one. If you are using the cutting method, cut off the top of the magneto, follow the above procedure, when finished glue top back in place. If a distributor is your choice, attach threads to top of cap.

Water hoses can be added to give the appearance that the radiator and engine are connected. Small black tubing or insulated wire about 3/32" in diameter, or the radiator hoses in some kits can be used.

Carburetor linkage can be made from small diameter wire bent to the desired shape. Linkage should pass through a hole drilled in the firewall to give it that look of realism.

Wiring your instruments on the dash to the correct places on the engine adds more interesting detail. For instance an oil temperature gauge could be set up by drilling a small hole in the pan, then inserting a very small diameter copper wire in the hole and then run the wire back to the gauge on the dash. Copper wire is used to simulate copper tubing, which would be used as the sending line.

A water temperature gauge can be simulated by drilling a small hole in the top front of the block, in front of the intake manifold, and running a piece of copper wire or a piece of gold thread back to the gauge.

A tachometer sending unit could be simulated by running a piece of thread from the tach to the coil and back to the gauge again.

An oil pressure line would most generally be attached to the back of the

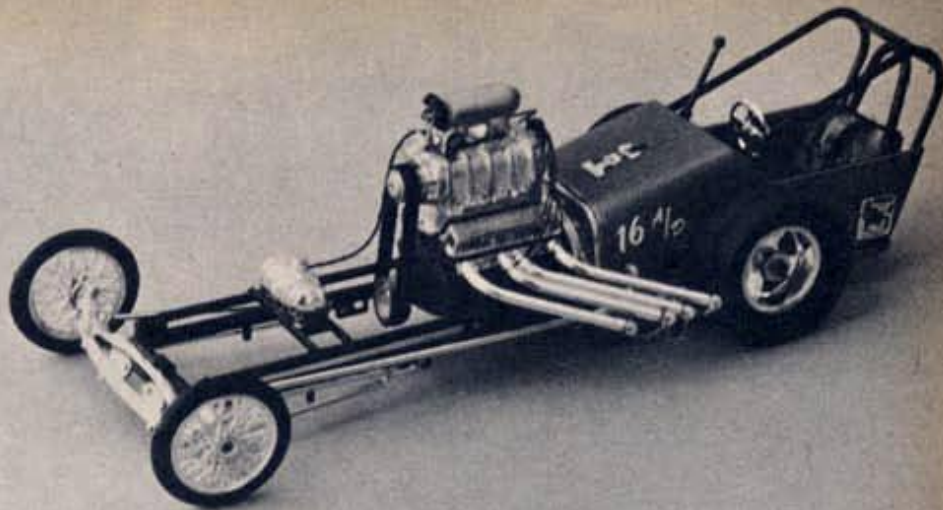
block and again copper wire is used.

The speedometer cable could be a piece of silver thread attached to the side of the transmission.

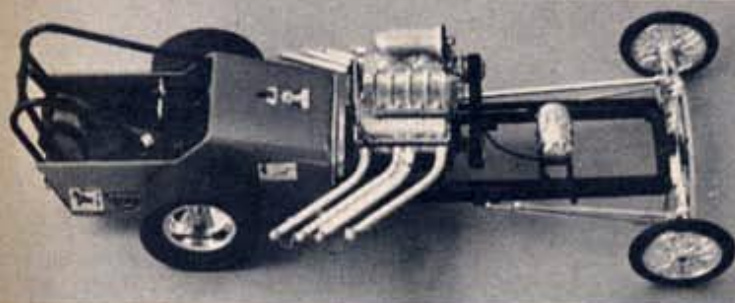
A fuel delivery line from your fuel tank to the fuel pump or fuel block can be made either with thread or 20 pound test fishing leader. Lines from the fuel pump or fuel block to the carburetors look best made from the fishing line mentioned above. It is best to drill a small hole in the side of the carburetors to insert the fuel line.

You could run a line from the gas gauge on the dash to the tank.

Master cylinder lines are made of fine wire, this may be neatly held to the frame by the use of narrow chrome tape.



This dragster shows details which can be added such as chained balls in the headed pipes, blower cover, and injector linkage.



A small drill, about 1/32", is used to drill the mounting hole for the dip stick. The stick is made of thin wire and inserted in the smallest aluminum tubing made, this is glued into position on the block.

An oil filler pipe and cap for your engine is another item which can capture those extra points. The oil filler pipe is a very thin piece of aluminum tubing fit into a hole drilled by a 1/32 drill or made by a heated pin on the front top part of the block. The filler cap is a small hub cap from the AMT '25 "T" kit.

Don't forget to wire headlights and taillights, and drill out the ends of your exhaust pipes and injector tubes and paint the openings flat black.

On competition machinery, don't forget such details as fuel hoses from the pressure tank to the injector pump and from the pump to each individual injector. If the hoses are already there, paint them flat black. Such other details as valve cover breathers, water filler tubes, blower covers, and "ball and chain" caps for exhaust and injector stacks add interest to a competition model.

If in doubt about where something goes on your engine check through the pages of Popular Hot Rodding magazine and look at the pictures of engines.

Remember the old saying, "it's the little things that count." Attention to detail can mean the difference between a winner and an also-ran.

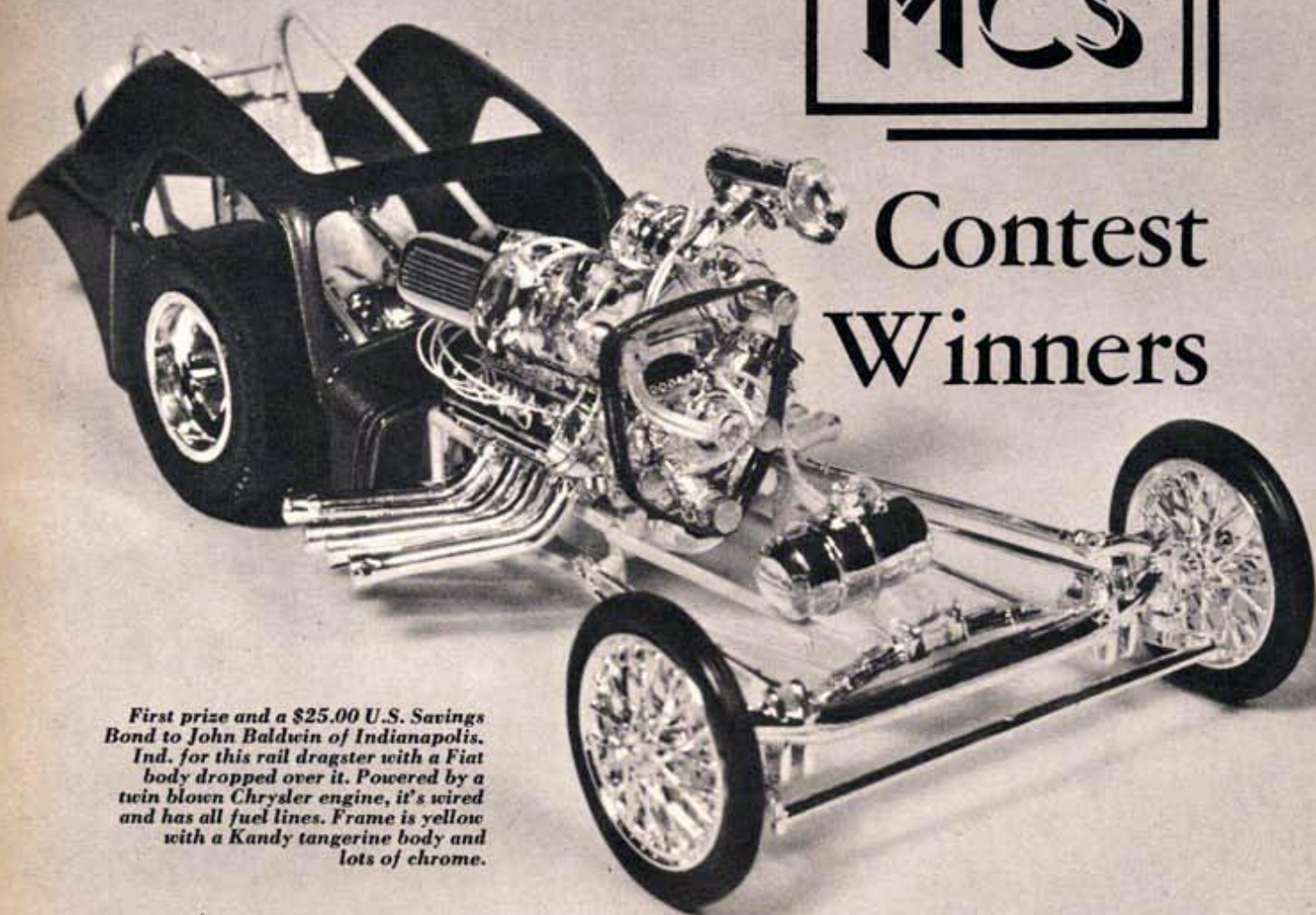
Wiring should run through a small hole in the firewall.



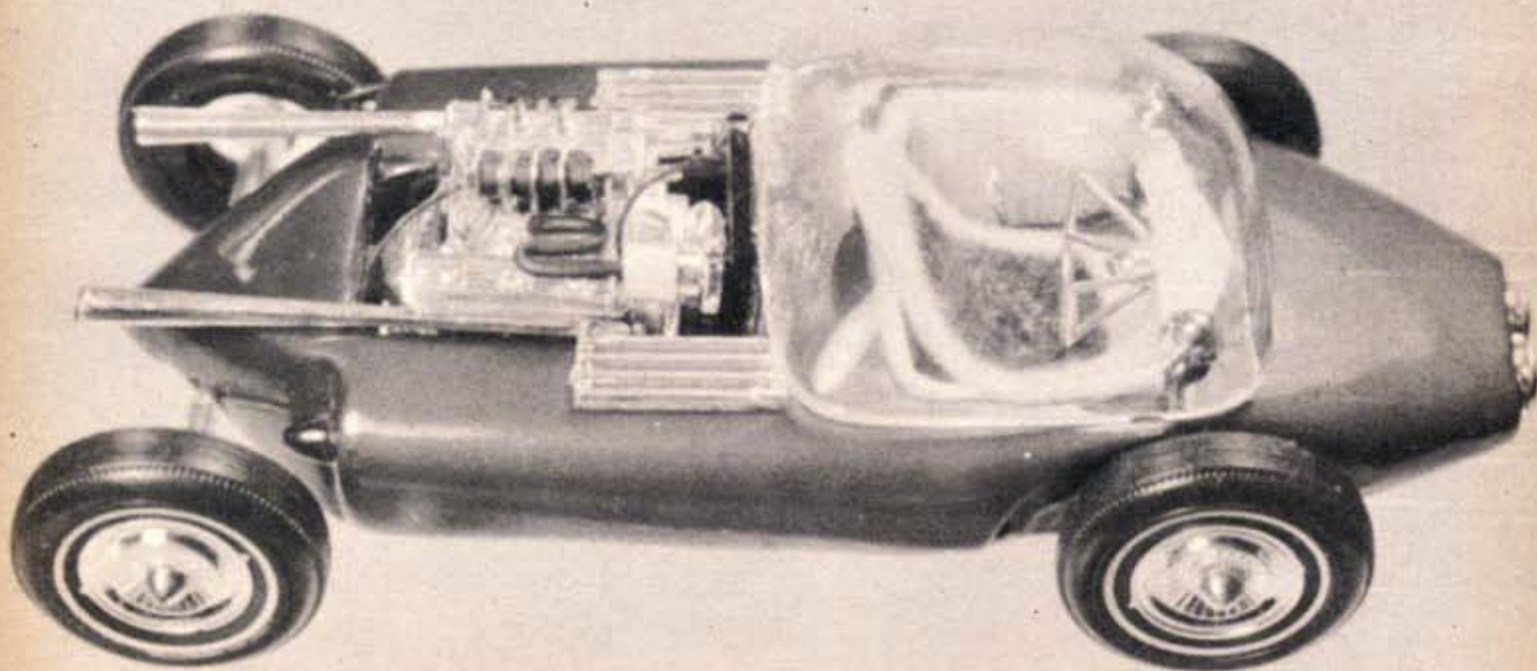
For finishing touch, add water hose, ignition and instrument wiring, carb linkage.

MCS

Contest Winners

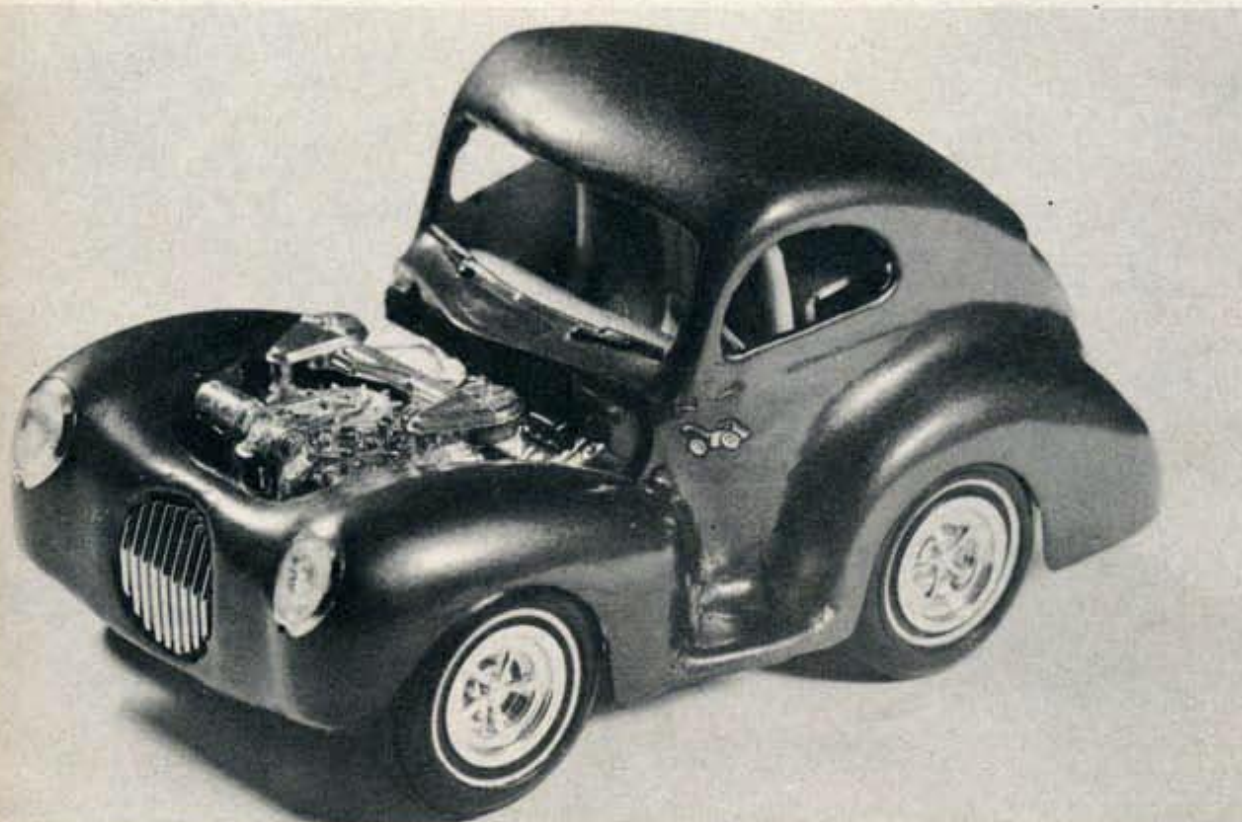
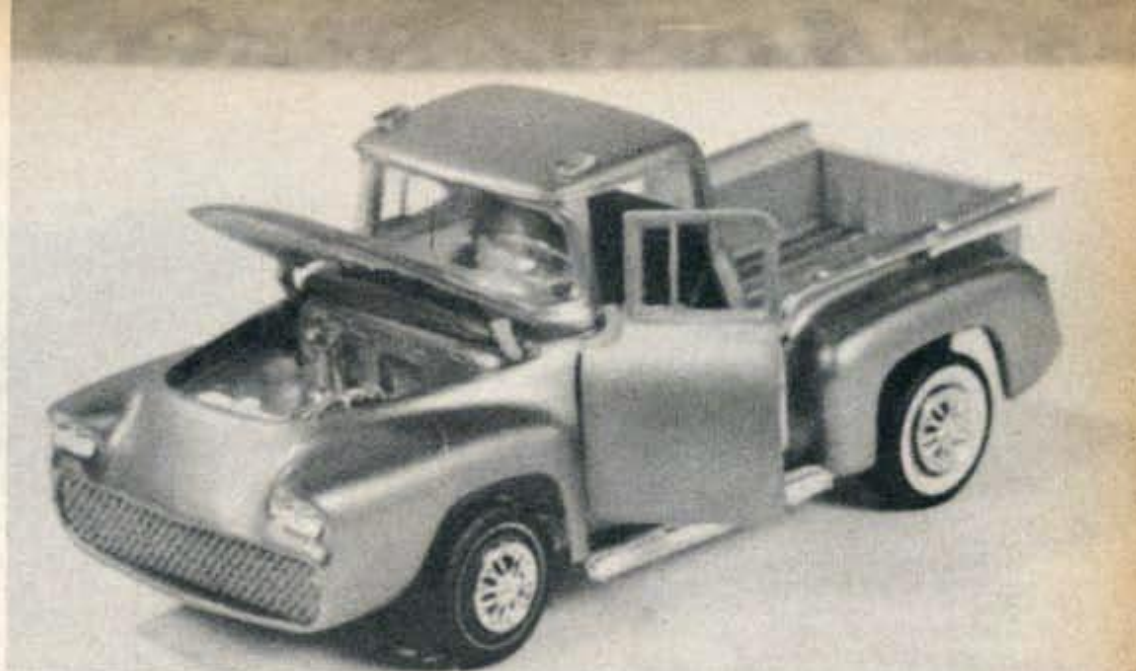


First prize and a \$25.00 U.S. Savings Bond to John Baldwin of Indianapolis, Ind. for this rail dragster with a Fiat body dropped over it. Powered by a twin blown Chrysler engine, it's wired and has all fuel lines. Frame is yellow with a Kandy tangerine body and lots of chrome.



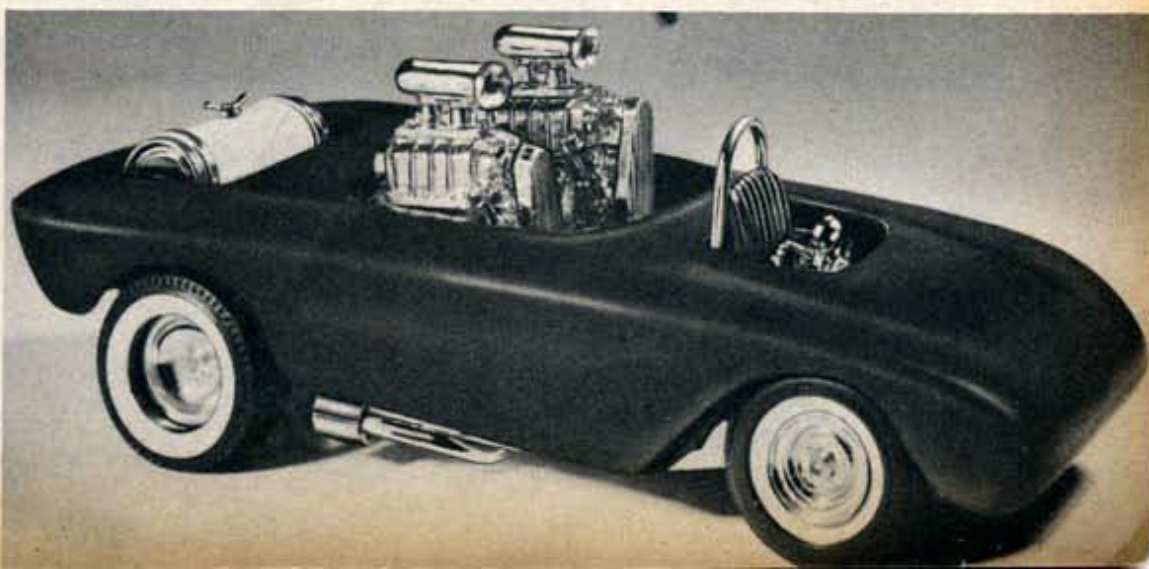
From Lexington, Kentucky, Scott Wallace wins second place with his scratch built 1/25 scale car. Starting with a balsa frame, Scott covered it with paper, then putty. It is candy blue, with eleven coats of lacquer and three coats of wax.

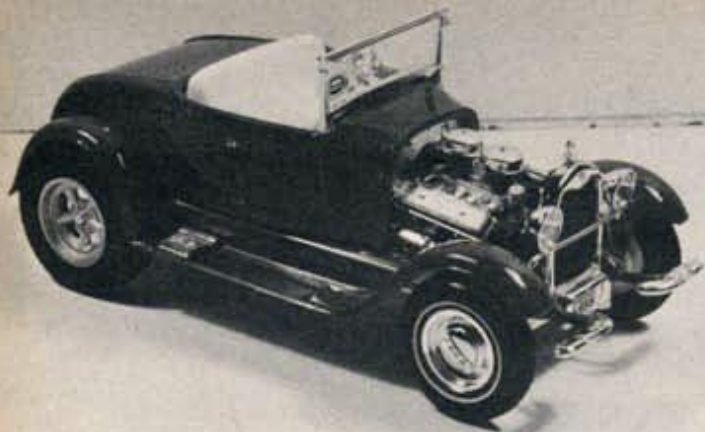
Third place is taken by Russell Joyce, Dover, New Hampshire, who took a '56 Ford truck by Revell and installed a custom front extension from an AMT '57 Ford kit. Grill is made from fiber glass screening. Color is turquoise.



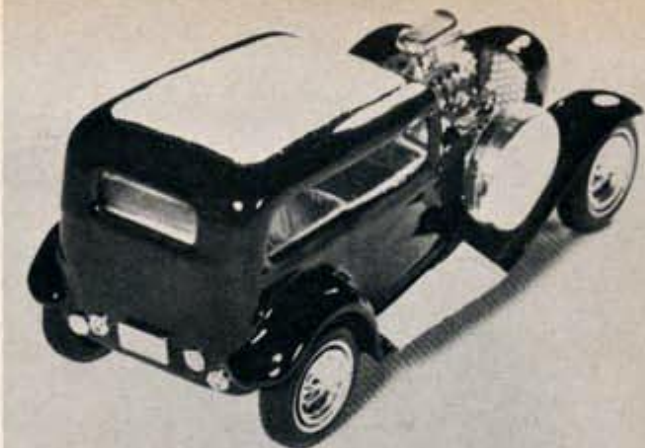
An AMT '40 Ford Sedan, sectioned length-wise two inches, wins fourth spot. Body work consists of front and rear roll pans and operating trunk. Builder Jim Martin, from Nashville, Tenn., painted the hand-made frame Kandy Gold, body is Kandy Apple Red.

This car was built by 16 year old Don Thokey of Brookville, Ohio. Two '58 Chrysler V-8s power a '61 Corvette body. Driver sits in front with a fully detailed interior. Car has 20 coats of spray paint and ten coats of wax.

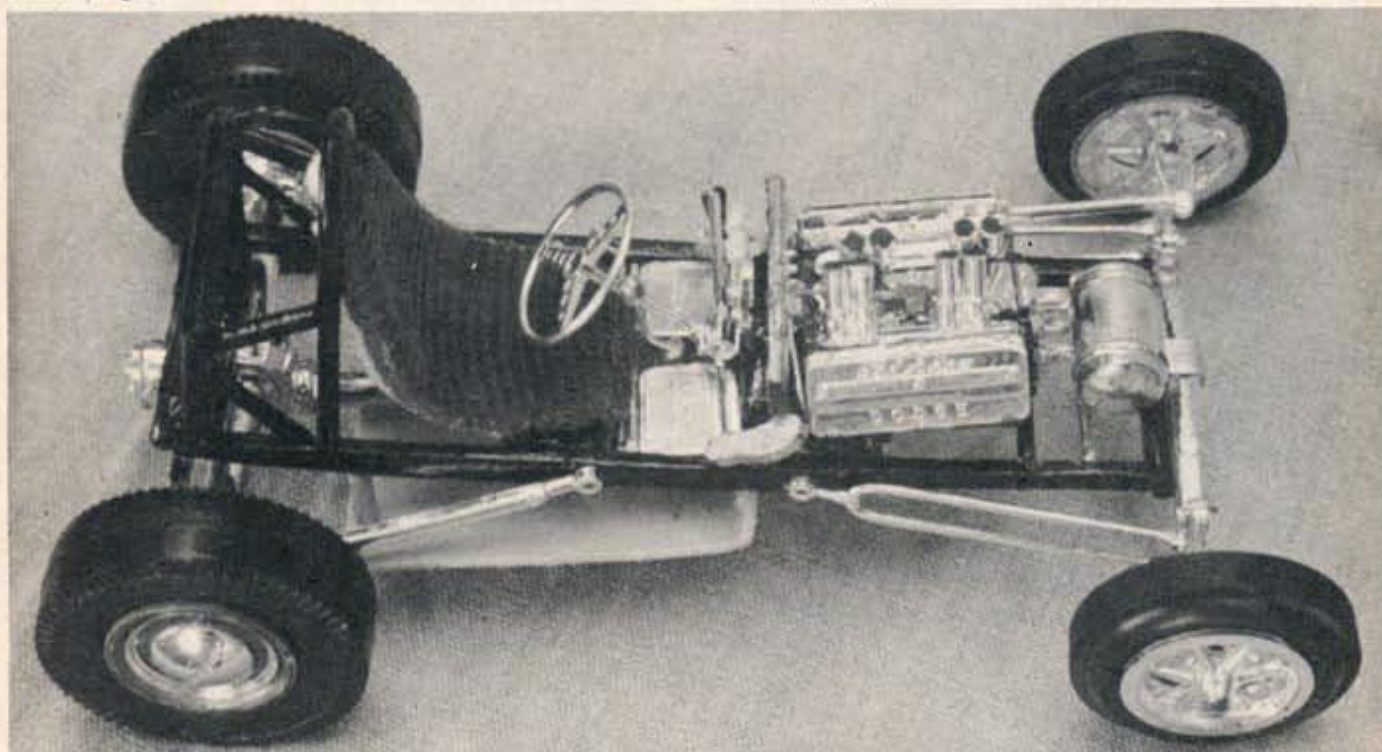




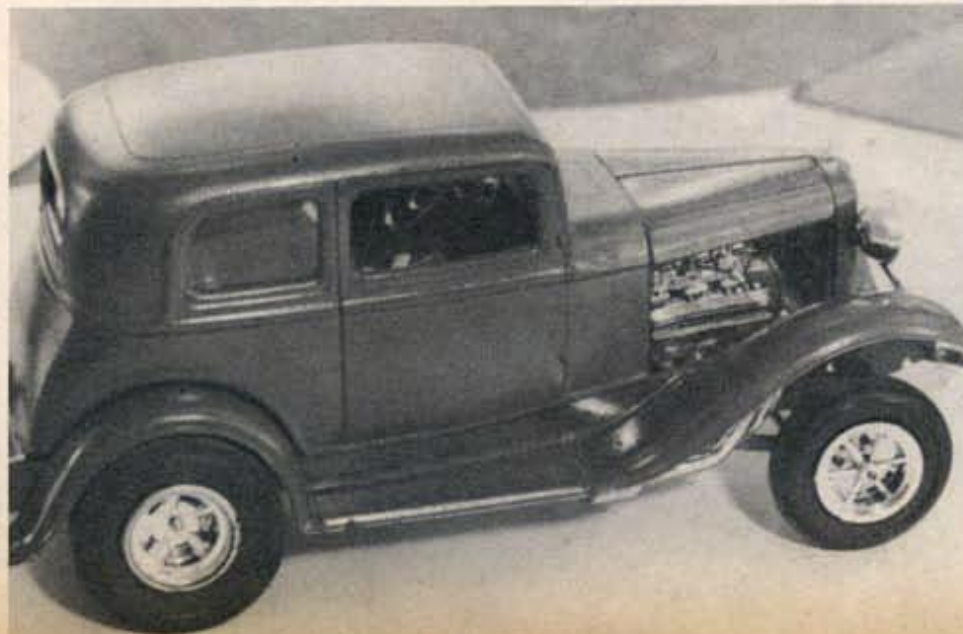
Maury Deatrick of Pacific Grove, Calif., shows off his model making skill with a 1929 Model "A" Ford made from the Ala-Kart kit. Firewall is recessed to accommodate large Olds 88 engine. Mags are from a Sizzler dragster.



This car has won first place in every contest it entered, according to its builder Ronald Stone. It started out as two '32 Ford Coupes channeled over the frame and molded to the body. Ala-Kart grill, bucket seats and chrome reversed wheels top it off.



Navy man Donald L. Anderson, stationed at the Air Technical Training Unit, Pensacola, Fla., built this car out of extra parts, except for the Revell Fiat Coupe body. Dodge Red Ram engine is from AMT Ala Kart Kit.

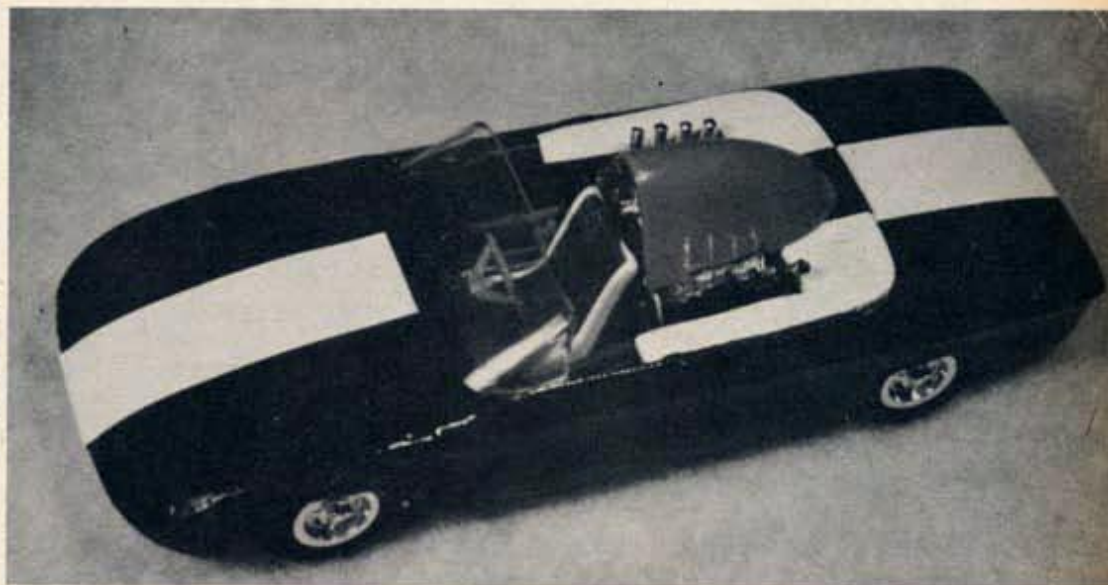


From Topeka, Kansas, Don Taliaferro's 1932 Ford Sedan has a 427 cu. inch engine, six deuces, fuel lines and throttle linkage. Front end is jacked up and the car has mag wheels. Kit was built according to directions and painted Gloss Red.



Jim Lear from Winnipeg, Man., Canada, built this custom using a '62 Chevy II body and a '60 Buick 467 F.I. Electrical, fuel and exhaust systems are complete. Exterior includes a plexy glass bolt-on hard top and an adjustable aerial.

This "Doodle-run-run" started life as a '62 Corvair (AMT). Robert Cuffey of Appleton, Wisconsin gave it the nose treatment and tail flattening. A wired T-bird engine is seated in the back covered by a red scoop. Doodle is painted black with a white stripe.



a MODEL CAR SCIENCE *Contest*

FOR MODELERS
EVERYWHERE . . .



Each month the editors of MCS will select, from PHOTOS submitted, the top model car. It will be shown on these pages and its owner will receive a \$25 U.S. SAVINGS BOND

SEND A PHOTO OF YOUR PRIZE MODEL TODAY TO:



MODEL CAR SCIENCE

Contest Editor
171 So. Barrington Pl.
Los Angeles 49, Calif.

You may submit as many entries as you wish. Send photos only, please. NO KITS. Include your name, address, age and information on how you built the model. Only CAR models are eligible. We cannot return any photos submitted.

McMODEL the MASTER BUILDER

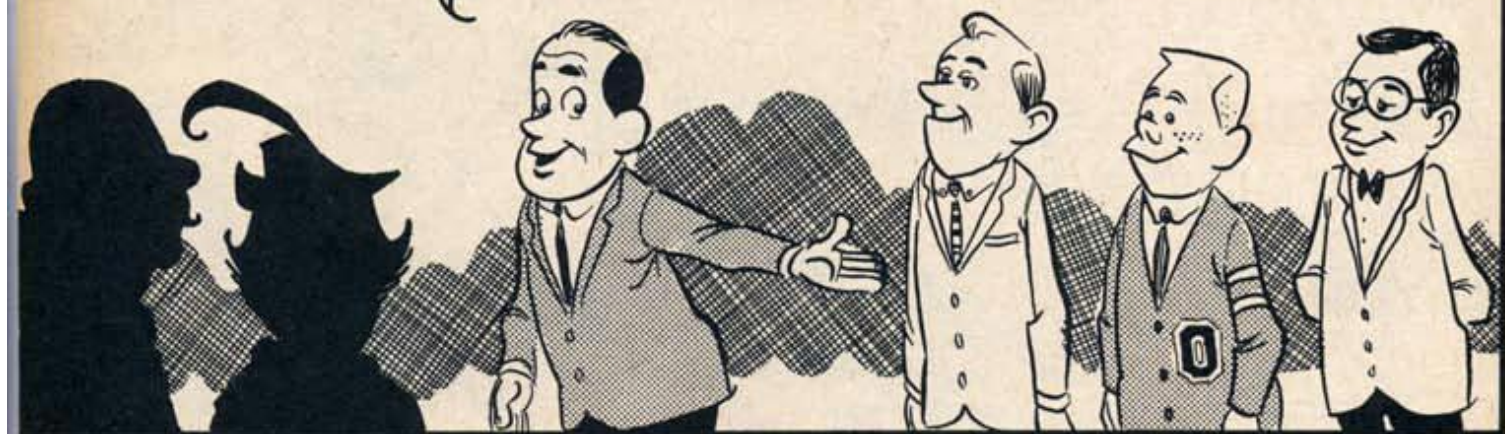
MR. MILLER, WE'RE FROM THE PETALUMA P.T.A.



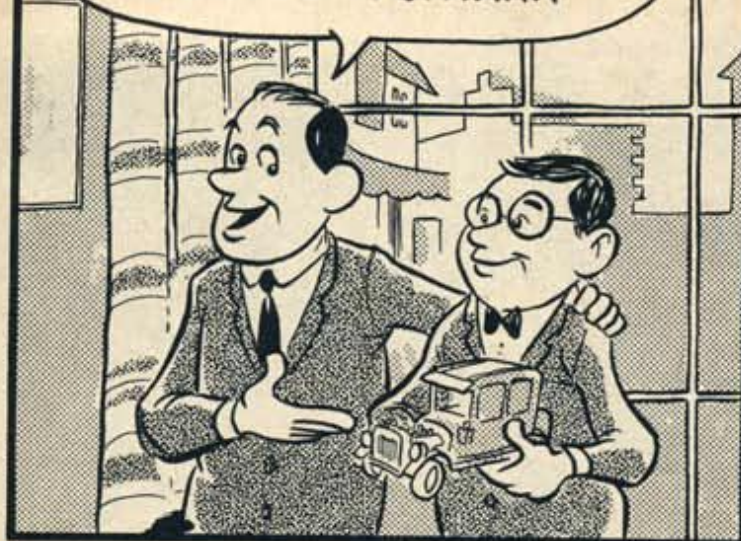
...AND WE'D LIKE MORE INFORMATION ON MODEL CAR BUILDERS!



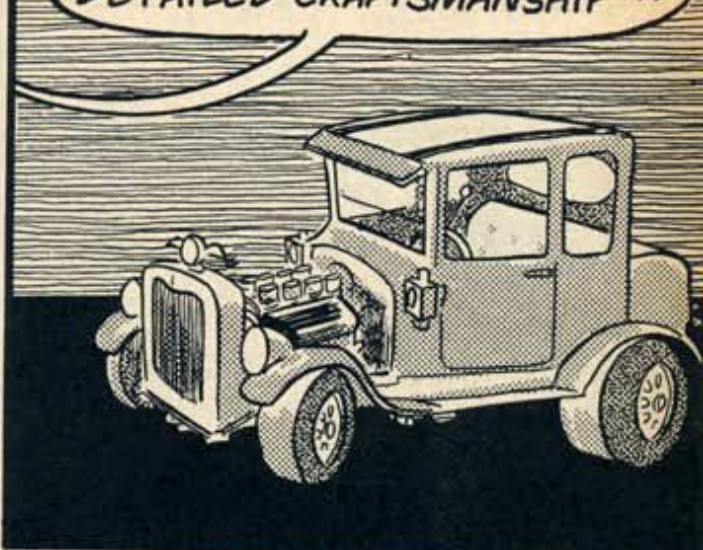
BRUCE McDOWELL, HERE, AND DARRELL HUNGER ARE ALSO WINNERS IN OUR M.C.S. MODEL BUILDING CONTEST THESE BOYS ARE ALL OUTSTANDING EXAMPLES OF THE CREATIVE YOUTH ENGAGED IN THIS FASCINATING HOBBY!



YES, WE'RE PROUD OF OUR BOYS! LIKE BILL MAUNDER OF BUTTE MONTANA...



... HIS 1/25TH SCALE '25 T-COUPÉ IS A FINE EXAMPLE OF DETAILED CRAFTSMANSHIP...



...BUT, THERE IS ONE GUY WHO IS THE GREATEST CUSTOMIZER ... BUILDS THE FINEST CUSTOMS...



THE MOST AUTHENTIC RODS AND DRAGSTERS, THE MOST BEAUTIFUL BOMBS...



FOLKS, MEET **McMODEL** THE MASTER BUILDER!

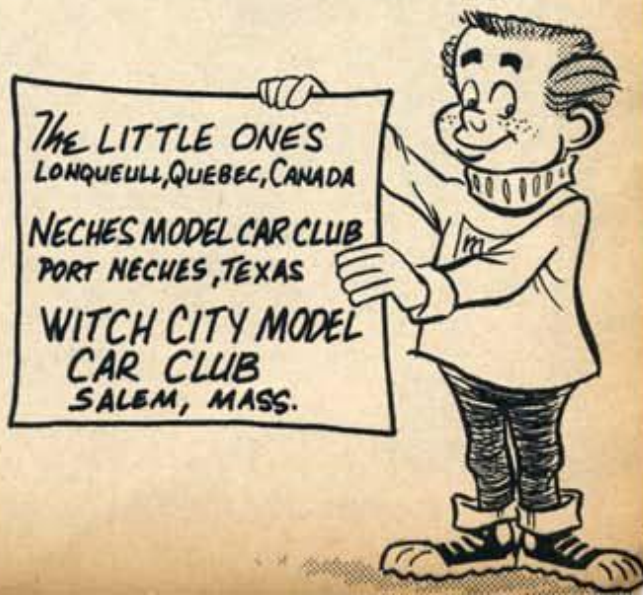


MONSTEROUS!

YEAH, AIN'T IT?



McMODEL SALUTES...



MODEL MASTERS-- TEXAS STYLE



A Round-Up of Top Customs From The Lone Star State

Bobby Warren's plush version of the Ala Kart features a neat paint job and fully upholstered interior and bed.

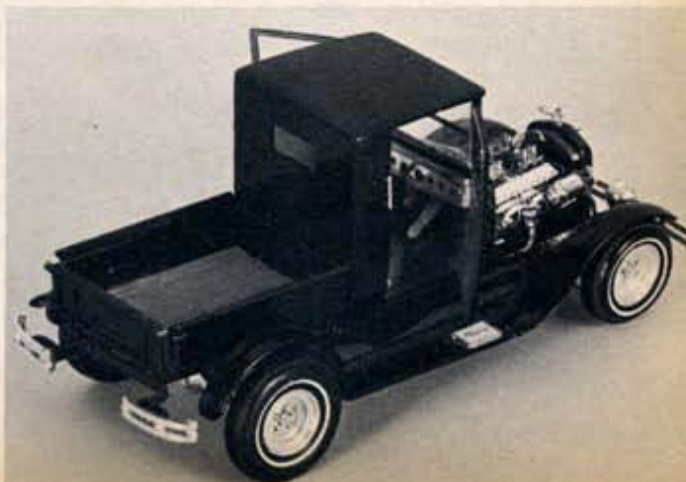


Duane Gibson of Houston sectioned this '36 Ford, built fins with wire and plastic wood. Note sun roof and Caddy engine.

Jerry Knotts' '29 T is from the AMT kit with a 327 Chevy engine. It is finished with 15 coats of midnight black.

By Donald G. Klumpp

Texans are generally credited for doing everything in a BIG way. How does this mix with the small work of model building? Great, if the examples on these pages are used as a guide. These fine models were gathered from across the Lone Star State and they speak mighty well for the customizing skill of their builders.

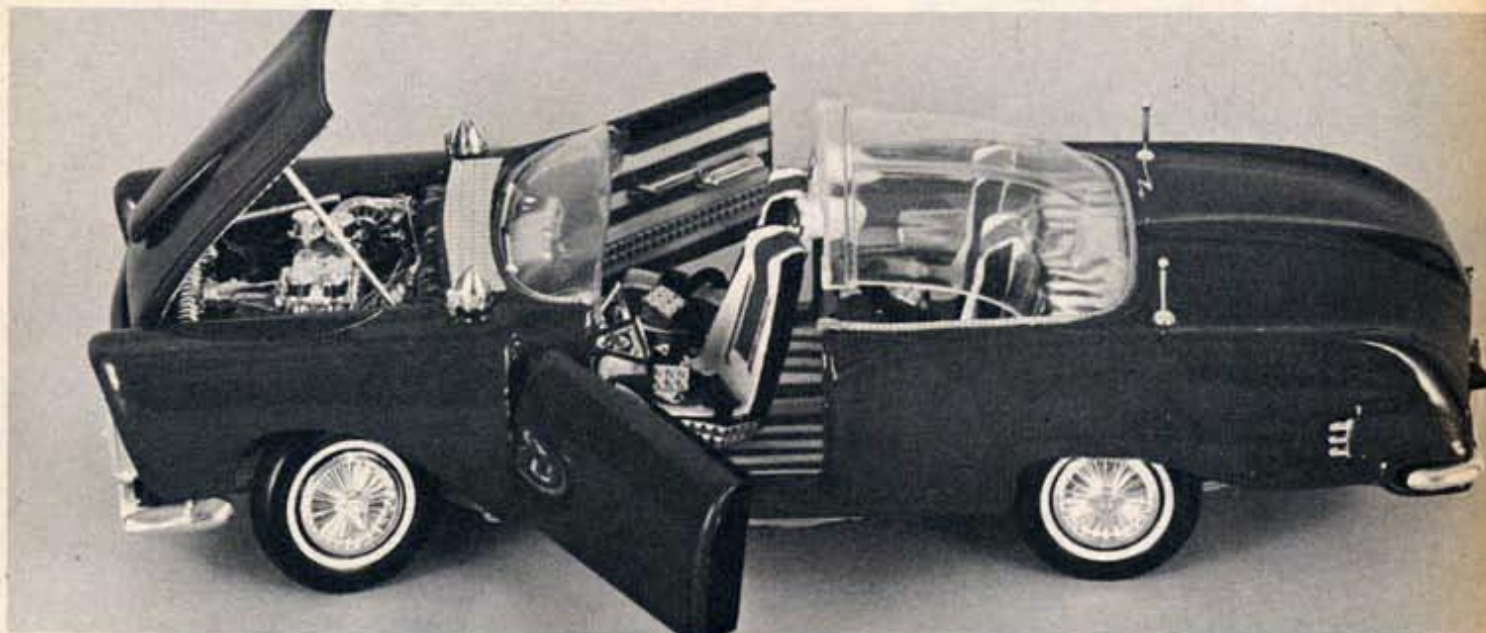




Jerry Knotts' Fiat drag machine has a Fiat chassis and a body made from a '29 Ford. Engine is Chrysler. Body is sectioned down center.



Another Knotts' special is this dragster with a Renault body. It has been leaded, given six coats of burgundy paint.



Bobby Warren has named this dream car "Ecstasy." It was originally a '57 Ford. Upholstery is corduroy.

Here's a '62 Corvette (right) with a chopped body and a gas turbine engine. Builder Jerry Knotts applied 18 coats of paint.



Here is another Corvette by Knotts. This 1960 version has an Austin-Healy bucket seat and is fully wired.

Knotts' Austin-Healy dragster is powered by two 283-cubic-inch Chevy engines, front blown. The chassis is from Fiat.



INDEPENDENT REAR SUSPENSION For Your Custom

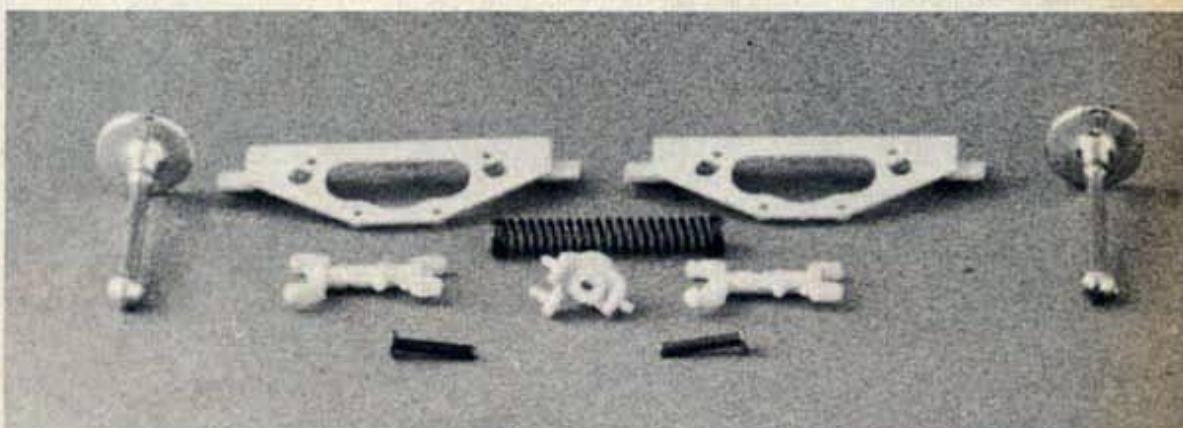
Many readers have asked for more "How to do it" articles involving exotic ideas. This information should please those who like to add working parts to their custom model cars.

By using parts from Revell's Jaguar X-KE Roadster and a readily available spring, you can build this assembly which can be used on a number of models.

This step-by-step data will illustrate basic steps in construction, however, addition of shock absorbers and differential will be left to you since this depends upon the car in which you install the completed unit.

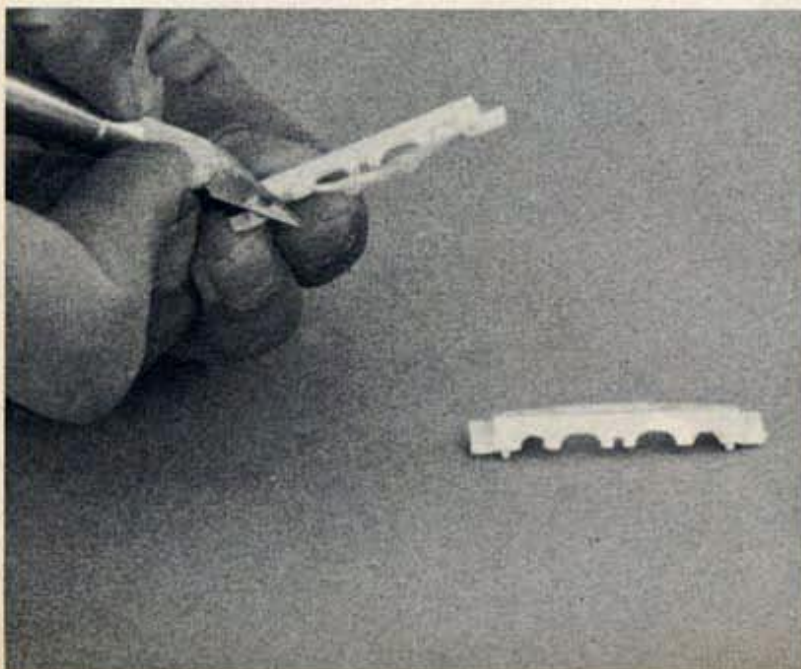
Tools you will need for job include: small flat file, small round file, large file, X-acto knife and wire cutters.

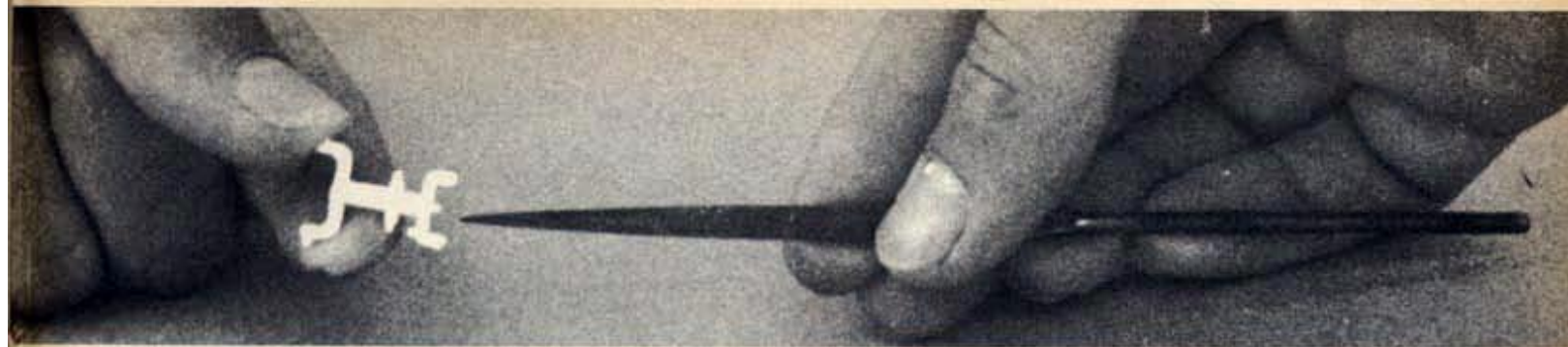
Here are the parts you'll need: ball point pen spring; two stanchions from Revell's Accessory Display Items kit; and the following items from Revell's Jaguar X-KE: Part 27—Fork, Part 29 and 30—Cross Beams, Parts 18 and 19—front wheel spindles LH & RH front axle "rivets."



File notches in parts 29 & 30 as shown. These notches should match each other when the two parts are assembled.

Here's how the holes (notches) will look.





File pins off ends of fork (part 27) and smooth with small flat file.



Using X-acto knife, enlarge hole in front spindles (parts 18 & 19).



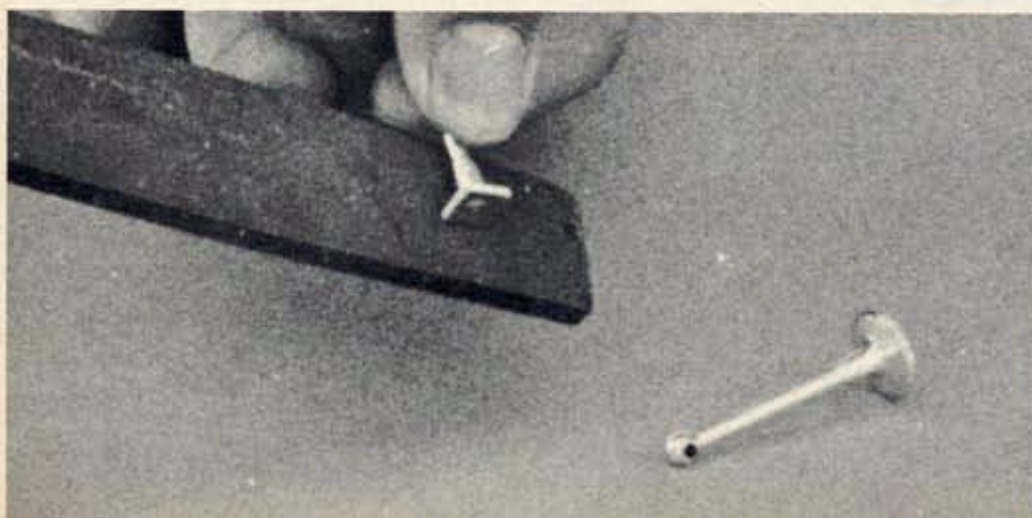
Remove all pins from spindles so only round parts remain.



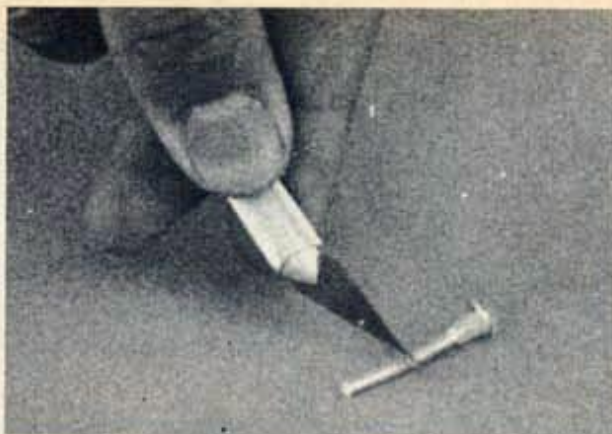
Insert metal axle into spindle hole.



Carefully apply cement to outside edges of large end of spindles, and cement parts to forks (part 27). Allow parts to dry for at least 2-3 hours.



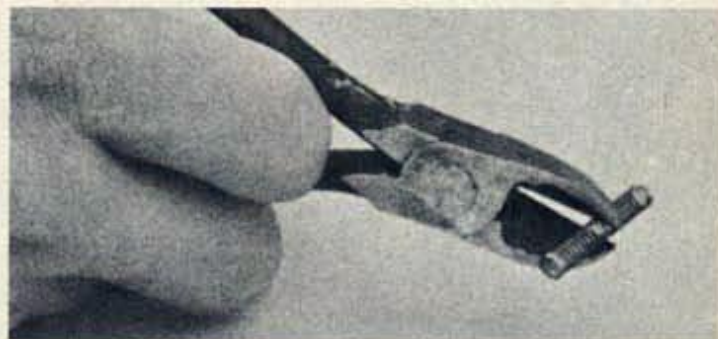
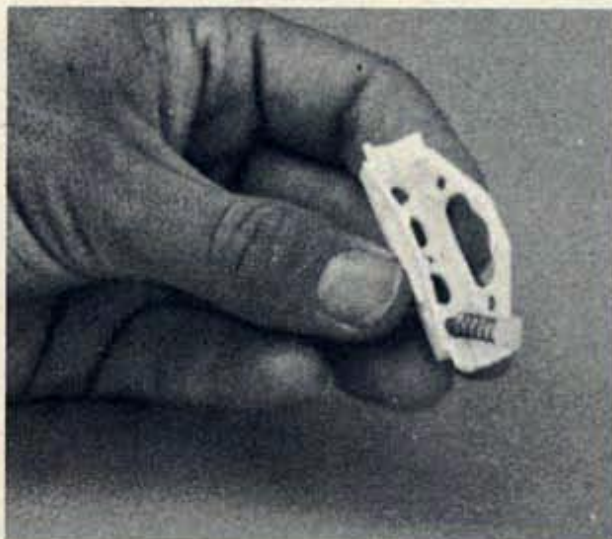
Using the large file, square off the base of the two stanchions to a dimension of 3/16".



Cut the parts to $\frac{5}{8}$ of an inch.

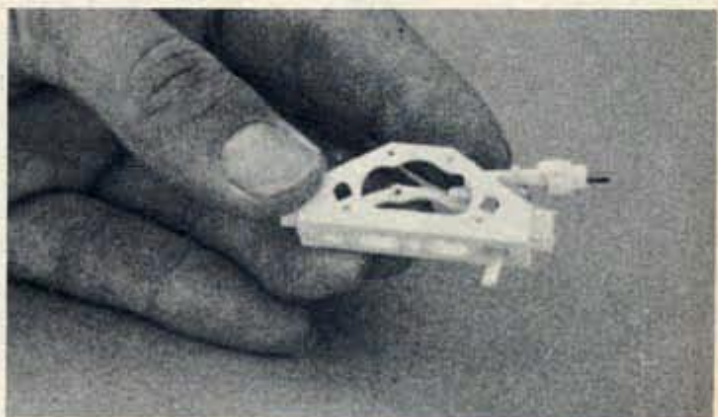


Make a round notch across the bottom of each of the two stanchions.



Cut the compressed part off each end of the ball point pen spring, then cut spring into two pieces, each two inches long.

Cement parts 29 & 30 together and insert the trimmed stanchion through the spring into holes in the cross beams. Repeat this step for the opposite side.



Insert the fork and spindle into the appropriate places on the cross beams as shown, then repeat this step for opposite side.

Here is another view of the completed part ready for installation of the wheel and brake drum.

With the wheel, brake drum and tire on the axle, the entire assembly is now ready for detailing with shock absorbers and a rear end center section.



HINGING EARLY FORD DOORS

You can add that custom touch
with these easy-to-follow steps

Only items required to hinge early Ford doors include: a small flat file, masking tape, a pair of needle nose pliers, and a package of Max Gray brass hinges.

Two hinges are needed for each door. Each hinge is held just below the first hole and the ends are spread apart and bent at right angles. The lower hinge must protrude farther than the upper to allow the door to close correctly because of the curvature of the body. This hinge is held above the hole when it is bent.

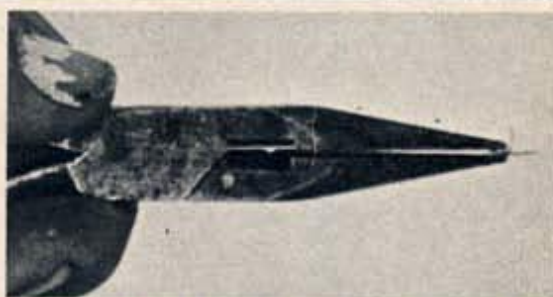
After the door has been cut out, it must then be notched. One notch is cut at top and one at bottom. Notch should be cut wide enough and deep enough for the hinge to fit flush when inserted in the door.

A small piece of masking tape is applied to the back of the right bend. Hinge is then placed in door notch and the tape is pressed onto the door so the hinge is held securely to the door panel. The same procedure is followed for the lower hinge.

Tape is now applied to the other right angle end and the hinge and tape are attached to the body in the same manner you attached the hinge to the door. Any excess tape that hangs over the edges of the body or door can be trimmed away with a sharp X-acto knife.

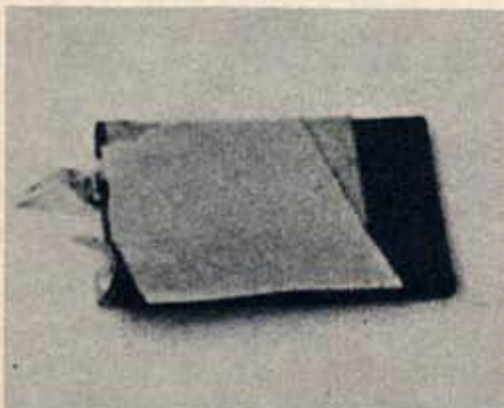
Door should now open and close smoothly.

This technique can be used on any early Ford, Model "T" through 1940.

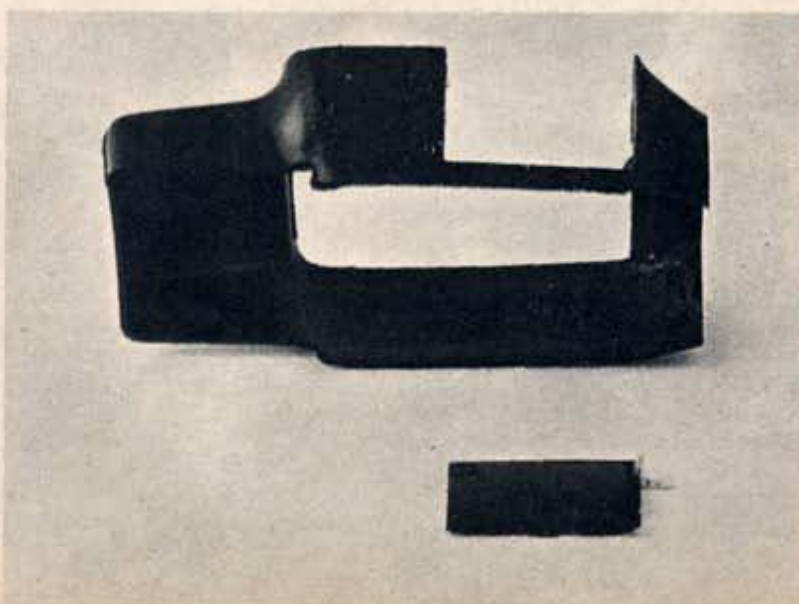


Bend hinge at right angles using a pair of needle nose pliers.

Cut a notch the same size as the width of the hinge in the door.



Attach hinge to the door with masking tape.



Attach door to body by applying masking tape to hold the hinges in place. Car is now ready for further work.



HERE ARE FOUR EXAMPLES OF SCRATCH-BUILT RACERS DONE BY MAC KENNAUGH. BODIES ARE BALSA, FENDERS ARE METAL.

TABLE TOP RACING

The now world wide sport of racing Electric Model Cars is the result of over 15 years work, much of it done by a few enthusiasts. The beginnings can be traced back to 1948, when the Editor of *Model Cars*, Geoffrey Deason suggested that it could be practical to adopt the then popular hobby of racing gas powered models to a backyard or indoor sport, by using small electric cars carrying small batteries and guided by a rail as with the gas type. This started enthusiasts devising ways and means, and a number of practical systems resulted. However the credit for the first method of enabling the operator to control the cars himself goes to C. R. Tebbutt, who described such a system in *Model Maker* during 1954. This was a Rail type track with separate power supply and drivers controls for the cars. Southport Model Engineering Society adopted and improved the method and with a group of enthusiasts working together they advanced so rapidly that in 1955 they organized the first Southport Grand Prix, on a 58 foot, 6 lane circuit.

Meanwhile other enthusiasts as well as trade sources were trying other systems including a groove for guidance, and in 1957 Minimodels appeared on the market with a practical slot track, and were soon followed by S.R.M. and V.I.P. Until the appearance of Minimodels (now Scalextric) inner radius curve these tracks were very limited as far as club use was concerned, but the idea could be adopted for home built tracks, and a number of groups worked on the scheme. For some reason many authorities on model cars publicized the idea that construction of a slot track was more difficult than for rail, and this may account for the reluctance of some clubs to try in early days. In actual fact it is far simpler to cut a reasonably accurate groove in board than to fix a rail of constant and accurate height requiring a locating peg every few inches, and this

imaginary difficulty coupled with the 'Propaganda' for rail to some extent accounts for slot's slow start.

Now the pattern of club progress became clear. The earliest starters such as Southport, Aintree, Sale, and Worksop had expended cash and effort on rail tracks and were by now well organized but the newer groups, realizing the potential of slot were putting their efforts in this direction. The slot movement, pioneered by such clubs as Whitehaven, Ecurie Spa, Northampton and Aylsford, rapidly grew, and in 1960 Model Maker indicated that the time had come for a set of National Standards to assist the development of inter-club and International competition. The idea was taken up by Laurie Cranshaw, a well known rail authority, and proposals were made and accepted for the formation of the 'Electric Car Racing Association' (ECRA).

Among the approved proposals was a set of standards for slot and although these are currently being reviewed, several of the main points will remain unaltered.

The most important are that models should be to 1/32nd scale, that slots must be 1/8th in. wide and guides 1/8th in. into the slot, and that the track must be wired with contacts positive on the left and negative on the right in the direction of travel.

The acceptance of these standards opened the way for future inter-club contests on a big scale as in theory any car should run on any track.

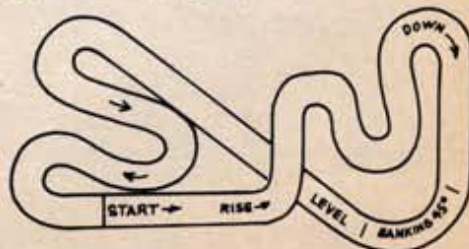
Slot had now been a going concern for four years. If development seems slow it is only fair to point out that what had been achieved was the efforts of a few clubs. No trade assistance other than some rather hesitant steps to make available some of the basic needs in material. No wealthy firms pouring in money to speed up the progress, just the fans, and one or two small businesses

with faith in the idea.

By 1961 Whitehaven was able to organize the first major Open Slot Meeting and this was soon followed by meetings at Leamington, then Aylesford and Blythe. Within twelve months several big meetings were established as annual events, and were coping with entries of something like 100 drivers and 200 cars, even when restrictions of entry were imposed. The experience of these meetings has revealed some shortcomings in existing standards, and the need for more precise definition of some rules. These points are now being reviewed by the slot experts and will result in a new set of regulations appearing in the near future. Also afoot is a scheme for the formation of a Regional organization which will arrange contests between the various clubs in the Regions, and an associated National Committee to arrange their Inter-Regional contests and National Championships. This will not affect the big meetings run by the clubs but has the aim of extending competition and improving car standards.

I think it is fair comment to say that what has been achieved is despite trade efforts rather than with them but it is apparent that considerable notice is now taken of the trend of club activities.

For a long time enthusiasts complained of the lack of accessories. Body shells were inaccurate and there was little variety. This has now been put right and top quality bodies are now



The Scunthorpe Model Car Club circuit is a six-lane, 108-foot track. The lap record is now 13.04 seconds.

coming from firms like Super Shells. The range of wheels and tyres has been greatly improved in scope and quality, and much attention is being given to producing improved steering units, contacts and gears, all in the light of club experience. Motors too are being developed specially for cars, and even Scal-extric, long makers of "oddities" in 1/30th scale not acceptable to club racing are coming out with a new 1/32nd range.

No one knows yet how many new clubs are active at the moment but it is probably something like 100, including those using straight commercial

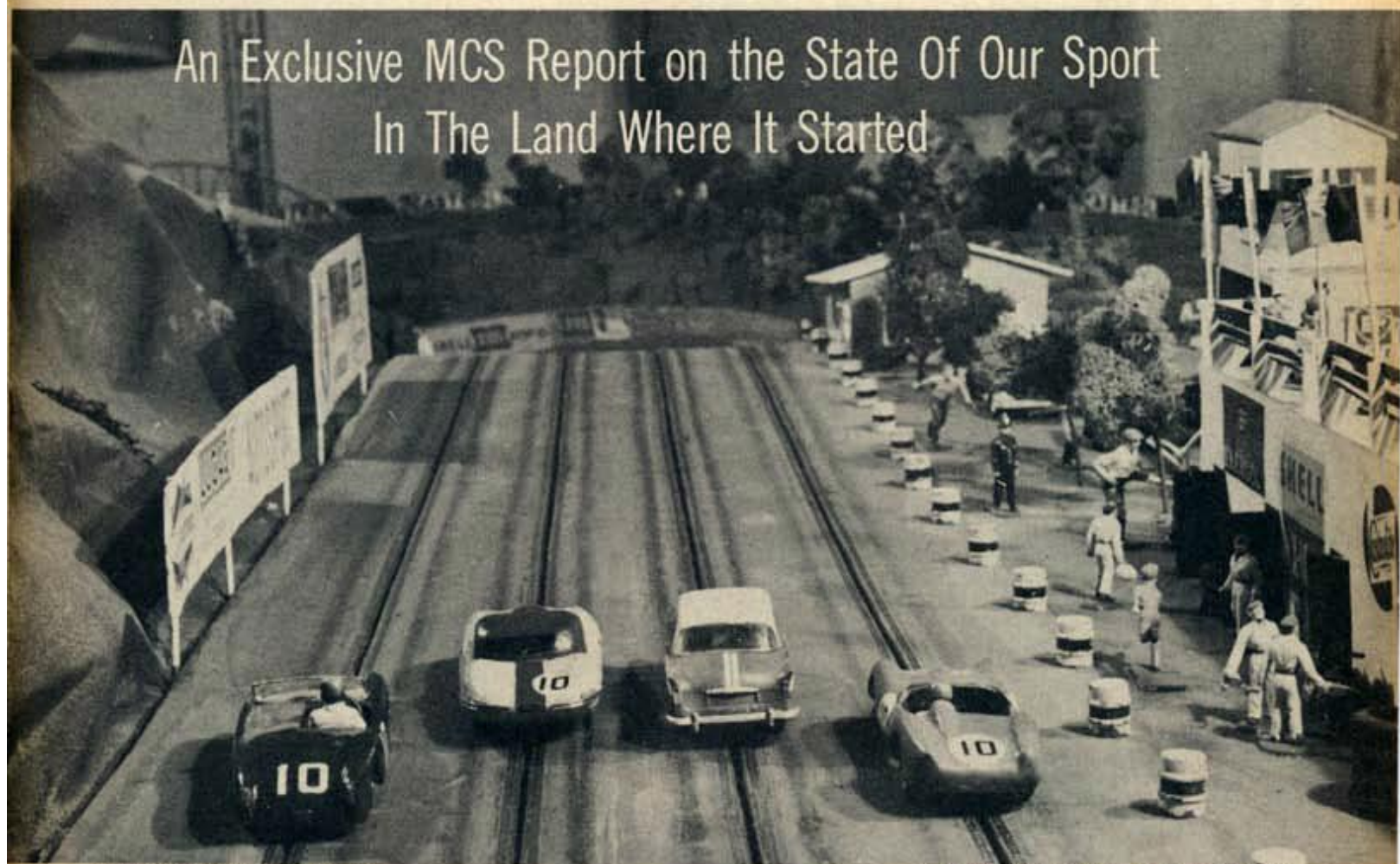
track in a bigger way than just racing at home with friends. The rather insular British outlook and the lack of publicity consciousness accounts for this lack of information. There are many cases of clubs only a few miles from each other completely unaware of the others existence.

From current information I know that most clubs are working on similar lines. Tracks average about 50 ft. per lap with four lanes. Lack of space means a trend to the high density type layout with numbers of curves and short straights. Any straight over 12 ft. is considered long and this has a considerable bear-

ing on car development. Surface is generally composition board, with either SRM. or MRRC. tape as contact. Voltage is usually 12v. at 1½-4 amps. supplied via main transformer rectifier units, though some clubs prefer a 12v. car battery as giving smoother output. Automatic lap recording is a must and many clubs are now using transistorized photo cell operation for these. Auto timing is almost unknown due to the difficulty and cost of obtaining suitable equipment. Occasionally a club has come up with an original idea which has great influence. One such item is the construction of the track at my own club, Ecurie

IN ENGLAND by A. M. L. Kennaugh

An Exclusive MCS Report on the State Of Our Sport In The Land Where It Started



PHOTOS BY ANTHONY PITT

The back straight behind the pits of the famous Ecurie Spa track. See next page.

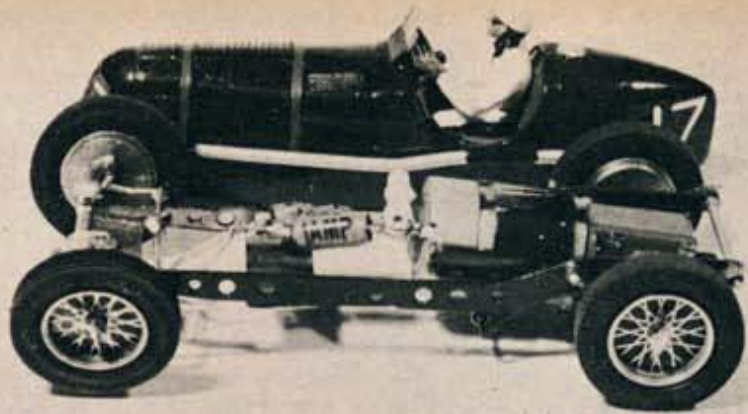


The Aylesford four-lane track covers 145 feet per lap. There are two bends with chicanes over the copper tape circuit and the height variation goes up to 18 inches.



Here is the private track of Don Doncaster. It is four by fourteen feet and the lap distance is 48 feet. Unit swivels up garage wall when not in use.

D-type ERA by R. Palmer of the Runnymede Club. Independent suspension on all four wheels and a Marx Luder motor. The plastic body is home made.



Spa. The surface is of gypsum plaster on a chipboard base and is strong enough to stand on as well as providing a smooth unbroken surface. The plaster is coated with emulsion base paint which has a fine grit content, and gives a surface like fine concrete. At first visitors did not like the surface, as it was so different from the ice rink finish of painted board. After a while they realized that this finish gives a grip like a real dry road and they are able to control the slide on a bend to precise limits. This has given rise to many imitators as the surface can be applied to composition board, and is currently the thing to use, as lap times improve considerably.

Drag strip racing is unknown here, as is racing on a banked oval. The European enthusiast in model and full size racing look upon this as a purely American institution, and remain outwardly unimpressed by the fact that one car can be made to go faster than another in a straight line. Drag cars are regarded with amazement, possibly tinged with awe at the times put up and although magazines on hot rodding are widely read the fans have little desire to emulate these feats either in full size or scale.

In the early days of slot, various scales ranging from 1/40th to 1/24th were used, but acceptance of ECRA rules led to the almost universal adoption of 1/32nd. This is the only scale used in competition, and though possibly not an ideal scale, particularly for current Formula I cars, was influenced by two main factors in its adoption. First it is a convenient size for our smallish circuits, and second, a range of plans drawn to this scale was readily available. The rules allow a tolerance of plus or minus 1/16th in. on the tread and wheelbase dimension, and stipulate that models must be of a full size prototype. Dream Cars and specials are therefore out unless an actual prototype exists. Most builders like their models to be realistic, and although concessions are made to produce practical race cars such departures as having the motor protrude through the body are definitely out, and fitting grossly oversize wheels and tires frowned upon. In general, it is easier to get stability from a big car than a small one, and this has led to a lot of interest in models of Vintage and Semi-Vintage cars. The Big Bangers have a

charm of their own and the Mercedes and Alfes of other days are a common sight at meetings.

At the moment the standard of most models is high. Club scrutineers are tending to want a closer definition of requirements to enable them to pounce on the few who omit such details as exhausts or screens, and this shows the great improvements of models.

The majority of club enthusiasts still regard home made bodies as essential to add interest to model cars as a hobby, but there are now some excellent true to scale products such as the new Super Shells range, which may make the labour of producing bodies less attractive, particularly to newcomers. Most materials have been used in construction. Still high on the list of favourites is balsa or other soft woods, usually finished to a very high standard of detail and polish, and often mistaken for a plastic moulding. Fibreglass, home moulded plastics, and paper strip have their adherents, but generally fewer than the balsa butchers. An excellent range of 1/32nd scale plans is available for a very modest price, and there are many enthusiasts producing their own working drawings, so the choice of subject for the home builder is virtually unlimited.

Chassis design has no clearly defined pattern as the choice depends on the motor chosen and the method favored by the builder. The flat plate chassis was the earliest in favor, but though still seen is possibly less often used due to the difficulty in aligning components compared with other methods. The introduction of the MRRC type Triang with integral rear axle mounting showed that weight reduction was an advantage and this 'Chassiless' type of construction has been adapted to most long frame motors. Frame type chassis are still popular as this is possibly the easiest to build accurately, but compared with 5 years ago all chassis are now much lighter. There are of course many who delight in making the smallest details work and they produce superb working suspensions etc., but as present tracks are so much smoother any advantage of such units

is generally outweighed by loss of speed, and they are prone to damage in a hard fought race.

To steer or not is still a point to argue. It does appear that the answer depends on the car and the circuit. A small car may be a good performer on any track without steering but a big car may only be suitable for big radius bends without. Every builder designs primarily for his own club track and experience shows that although it is possible to build a car to perform quite well on any track, it will usually be well outclassed by one designed specifically for that particular type of circuit. Hence we get such 'local' peculiarities as a club who build nearly every car with 4 wheel drive or others who consider a heavy car without steering the true formula for success. The extending of inter-club racing is helping to change these ideas which usually result from some circuit peculiarity, as when clubs realize that their difficulties are due to something overcome by others they take steps to fall into line.

Power for the cars is usually provided by one of the Triang types of motor, although the 'K's Mk2 is becoming popular particularly for current F.I. cars. The rail clubs consider a Pittman a must but for slot it is often found that such motors are too powerful. This may sound odd, but the factors governing this are simple. Despite the cries this will cause from rail addicts it is obvious that on a bend the raised rail will assist in limiting the slide of the model. If the car is held in a slide so that it is just not touching the rail, application of excess power will throw it on the rail to bounce off and straighten up (OR roll over if overdone). On a slot track the result will be to spin the car off. Excess power causes wheel spin and tail wag. This can be reduced by correct gearing but the choice of ratios is limited to either 3:1 or 4:1, neither ideal for the big motor in a 1/32nd car. Finally the tracks play their part. The less powerful but correctly geared small motor will reach peak performance while the bigger motor is still accelerating, but remember

the short average straights and then you will realise the power must be cut long before the full potential of the big motor is reached. There are of course some tracks with long straights and these clubs utilise the Pittman's superior performance to the full.

Racing ideas vary, but the most prevalent is the usual system of heats and final. Generally the heats are looked on as one race and the performance of each car matched against all others. The simplest way to do this is for heats to run for a set time when power is cut and the actual distance covered by each car recorded, those covering the greatest distance competing in semi finals for places in the finals, which are usually over a set number of laps.

Two classes are recognized, Grand Prix, which is interpreted as any type of recognised racing car, and Sports Car which covers all others. Some clubs, my own among them, discriminate further and have separate classes defined as G.P., Sports, Racing as classed by the FIA, Production GT and Vintage, as classed by the Vintage Car Club of G.B. The neater breakdown of classes adds to the interest of meetings.

There is a constant search for new ideas for events, and one which caused a great deal of interest was the 12 hours Le Mans race organised by Ecurie Spa. This was for 4 invited teams to enter one car per team with up to six drivers. The car had to run the full 12 hours including a period of complete darkness when only car lights and pit area lights illuminated the track. Various hazards were introduced and there were penalty periods when coming out of the slot meant a penalty. This was a great success and it is planned to extend the idea

to include a series of six hour eliminators, culminating in a full 24 hours race.

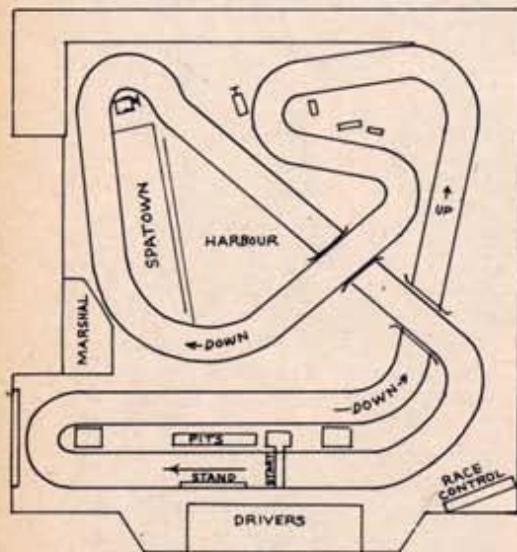
I read many of the magazines catering for slot racing enthusiasts, and often see remarks that you are behind us as we had several years start. I do not think that this is completely true. Your late start has the advantage that you are starting from a point where there is considerable knowledge available to ensure you do not have to experiment to get running. How to build a track and a car is no problem. The final edge will only come from individual experience in finding out how to make your cars go faster and with improved driving technique. I am certain that no expert can tell you precisely why his car is fastest. He can tell you what is essential to ensure that the car is capable of being a fast one but that final 'tweak' that gives him the pole position is result of experience and he may not be able to define exactly what he does. It is just the same in full size racing. An experienced mechanic can go through the motions of tuning the car to perfection but another doing the same motions will get that little extra from sheer experience and genius. So if you are not out in front try to analyse what is wrong until you hit on the solution, and never reject an idea until you have proved that it does not work for you.

So far as the rest of Europe is concerned, I am afraid that information is scant. From sales of car racing sets and the fact that German and French manufacturers are entering the market, many buyers must have tried the thrills of table top racing for themselves, but little or nothing has been heard of any club movements. From articles in Dutch and Danish magazines, there are some en-

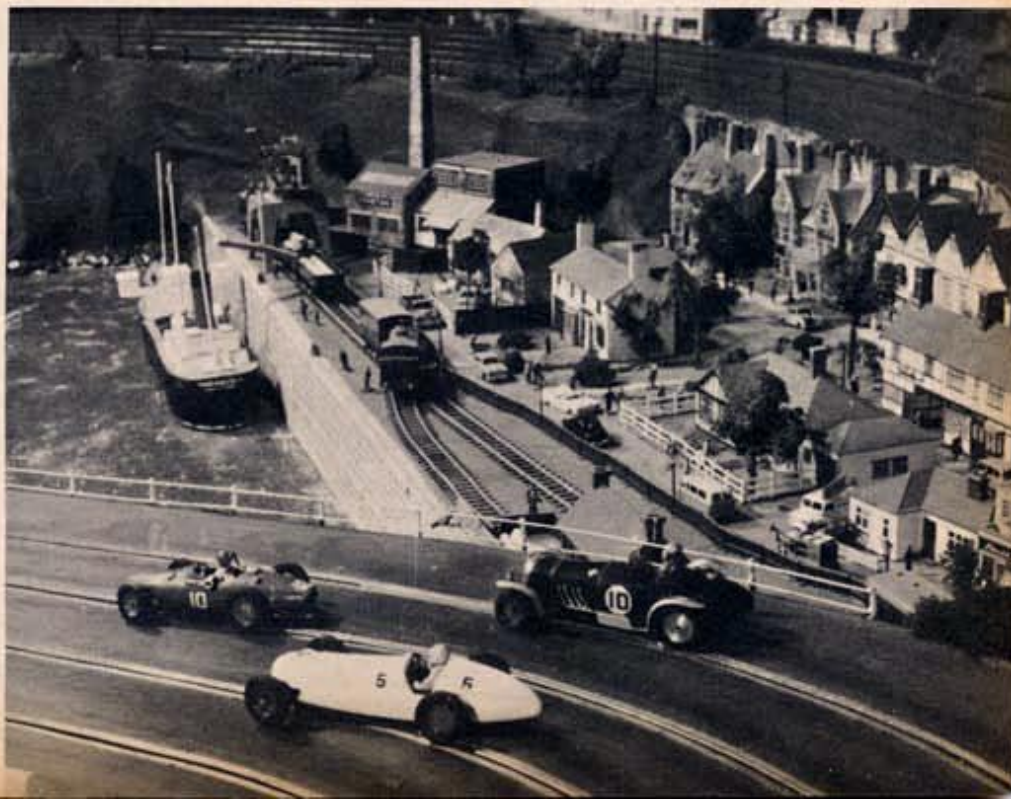
thusiasts around, and a number of British service units on the Continent have active clubs. If there are clubs racing over there they are very quiet, and even press invitations to compete in races here have brought no response. However, British and American Hobby magazines are widely read there, and it is only a matter of time before we get some true International races.

Finally, may I express the hope that we shall see a more frequent exchange of models to race on either side of the Atlantic. A small band of U.S. fans have been sending cars over for some time, and I hope more will follow suit, and that we will do the same. I have received several invitations to send cars to U.S. events, but these have been for 1/24th scale, which we do not use. The time to develop suitable cars in this scale to make them worthy of entry is one thing most of us are short of, and it is not just a case of building a bigger car, as we want our entries to show our best. Perhaps the future will bring International agreement on standards for International competition and we will really get together.

I notice from the columns of your mags that interest in 1/32nd scale seems to be increasing in the U.S. particularly with the efforts of manufacturers like Strombecker and Revell. It is rather interesting to note that an early suggestion that we should run different scales as different formula, (i.e. 1/24th F.1, 1/32nd F.2, 1/48th F.3) died from lack of support. The fans found no time to develop cars in the different scales, so adopted that favoured by the majority, so now we would consider a plan to change disfavour. (This is of course, pure propaganda for 'our' scale.)



Partial photo and full plan of the Ecurie Spa course at Leamington Spa. This four-lane circuit covers 96 feet per lap. The surface is gypsum plaster with grit emulsion paint. Small town in background is of 00 railway scale to give an effect of greater distance.



Slot Racer's Work Shop

NEW IDEAS IN RACING MODIFICATIONS

MOVABLE ARMS FOR SLOT CAR DRIVERS

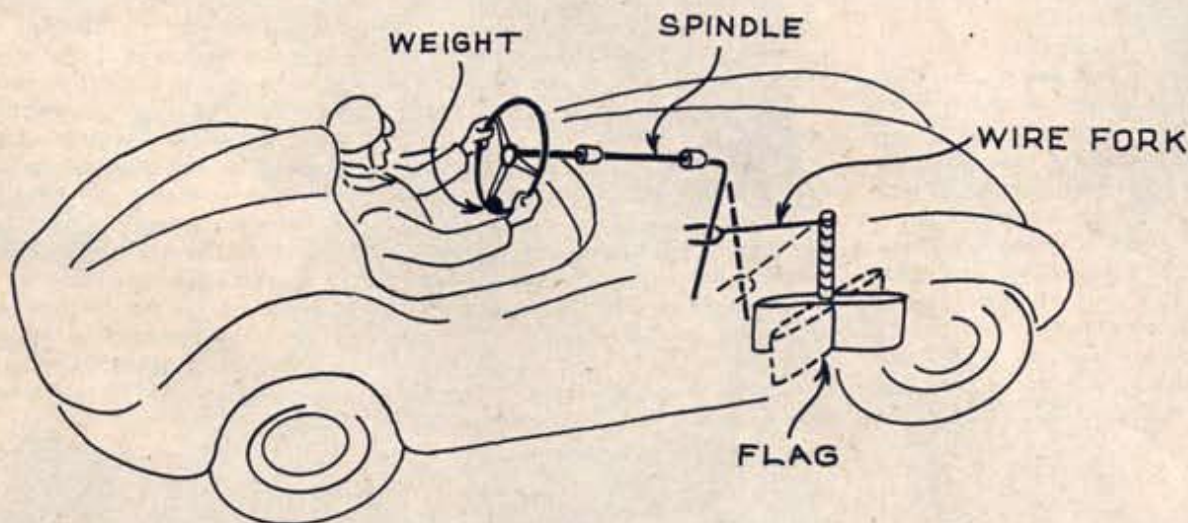
Here is a way to increase the realism in slot racing cars, especially F-1 type. With this method, it is fairly easy to make the arms of the driver turn whenever the car is negotiating a turn.

First, mount the steering wheel in a spindle so it will rotate easily. Spindle should be close to horizontal so little force will be required to turn the arms. Attach a small weight to the bottom of the steering wheel. Whenever the car is turning, the centrifugal force will turn the wheel in the "realistic" direction. The

driver's arms should be made of flexible cloth and attached to the body. For movable arms, you can use the outer insulating layer of cloth of electric iron or heater cords. Make sure the cloth arms are not stiff, therefore paint that dries to a stiff finish should not be used. Either use water colors or cloth of the proper color. Since the wheel will only turn 90 degrees as a result of the centrifugal force acting on it, the final effect will look like a car with very fast steering ratio, i.e. the driver will

"turn" his arms until they are extended, Stirling Moss style.

Linkages can also be used to actuate the steering wheel. This is a little more complicated, however, in a properly executed turn (front wheels are parallel to the car and the steering wheel is in neutral position, and car is steered with the throttle) the arms will be straight out because the flag is parallel to the car. When the car is oversteering or understeering, the driver's arms will be seen to be wrestling the wheel.



NEW TRACK IDEAS

Here's a novel, easy to make slot track that can be stored when not in use. Imaginative hobbyists can use this system or make their own version of combinations of this system.

To make the basic parts of the track, cut a 4 x 8 ft. plywood ($\frac{1}{2}$ inch thick will do) in half so you have two 4 x 4 pieces. Put them on top of each other and using a bandsaw cut the spiral shape as shown on the diagram by solid lines. When you only have a keyhole saw, do this one-by-one. Next, using a router with an $\frac{1}{8}$ inch bit, cut the tracks ($\frac{1}{4}$ inch deep slots) into the plywood. This is shown by the dotted line in the diagram. Don't worry about making the

slot a bit uneven, it makes for interesting racing and results in a more realistic effect.

Take two pieces of wood or plywood approximately eight inches wide each. Cut slots into them again about three inches apart and fairly parallel. The main point here is to make sure that spacing between slots is the same in the beginning and end as the spacing on the spiral. Slots can be cut into the boards using a circular saw with the blade set to a $\frac{1}{4}$ inch deep cut. Two boards of this type have to be made for a track. The boards can be of any lengths as long as they are both the same.

Several combinations of this track can

be built: one left spiral and one right spiral; two spirals in the same direction; three or more spirals connected by straights of varying lengths, etc. There is an endless number of combinations.

If you want a track that's easy to take down and store, you'll have to make a quick disconnect for each of the boards.

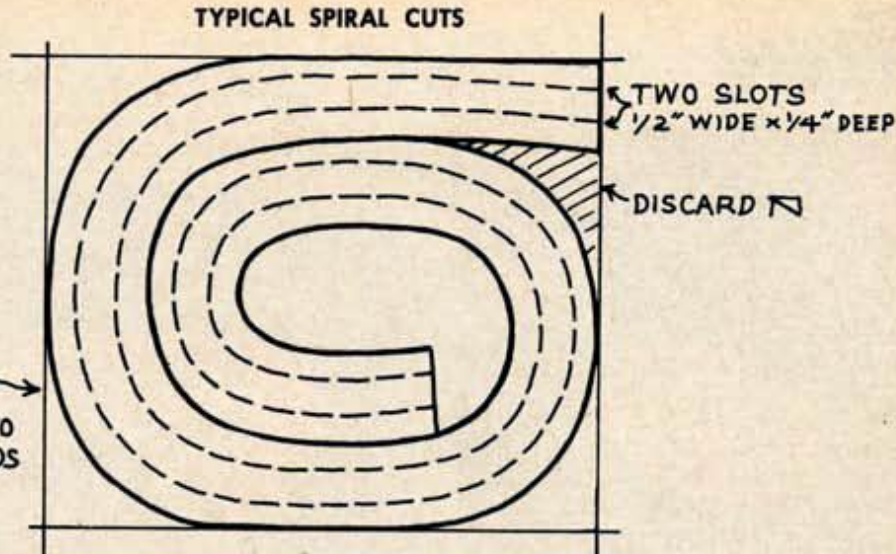
When you want to take the track apart, remove the supports and the spirals will fold flat (1 inch thick) for easy storage. The straights will stand up, out of the way.

For a more permanent track, make a support under the spiral, either in the center (for a Pike's Peak effect) or

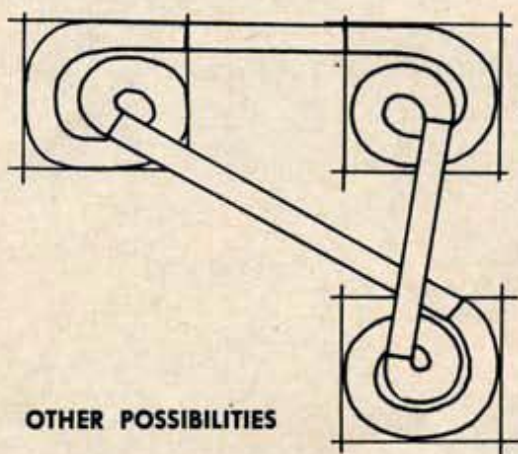
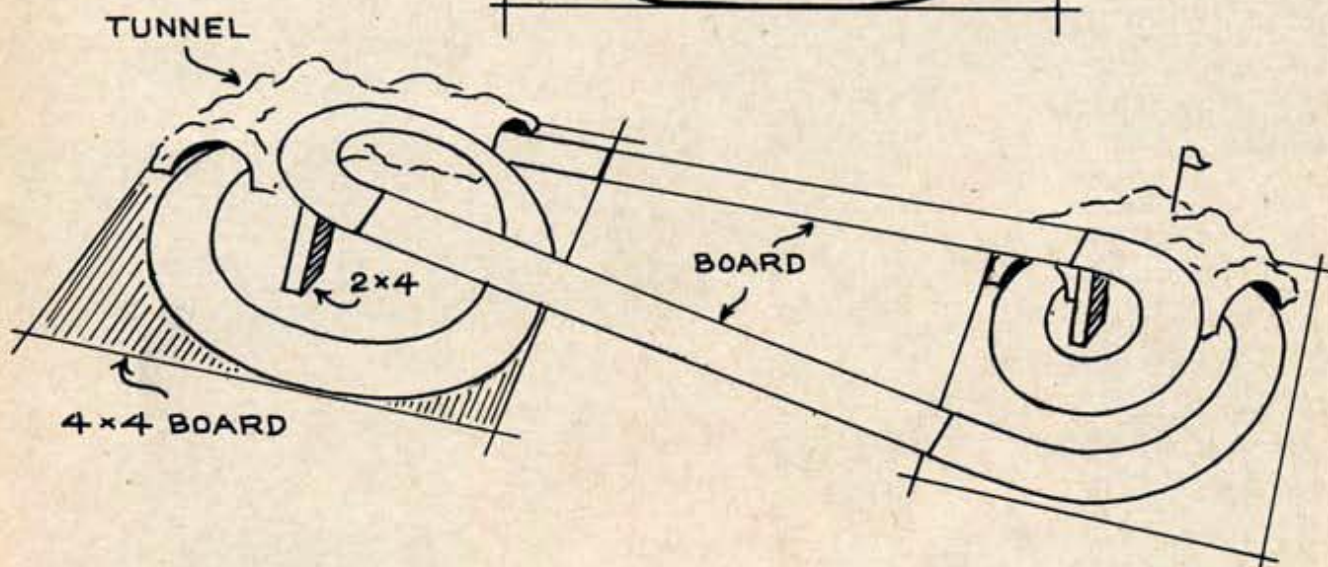
starting on the outside and gradually decreasing inside (for a "death dive" effect).

Tunnels can be built around the back of the curves if you want to dress up the track. Use fiberglass over a chicken wire frame to make a tunnel shape. Paint it with a dark green oil base paint. While the paint is wet, sprinkle earth or sand on it to give it a realistic "hillside" effect.

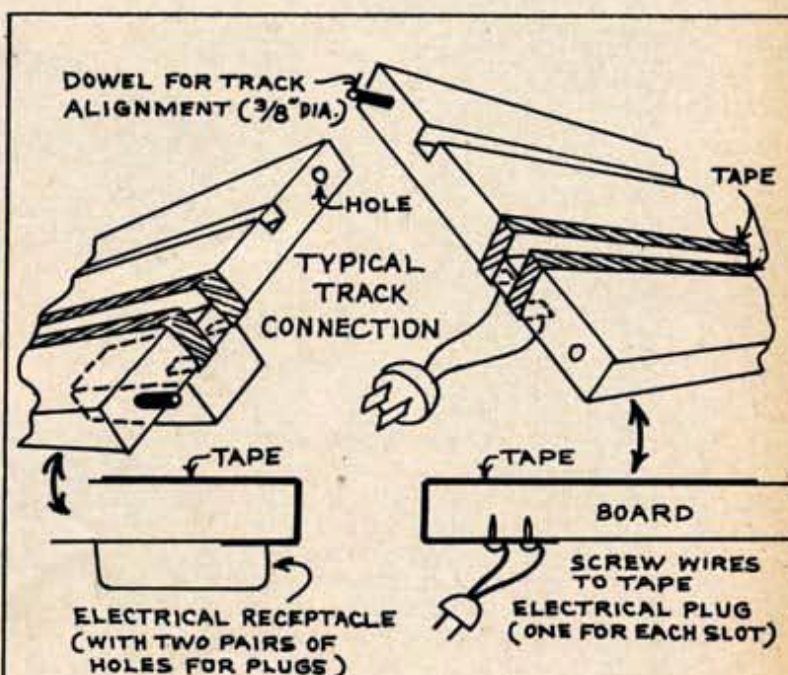
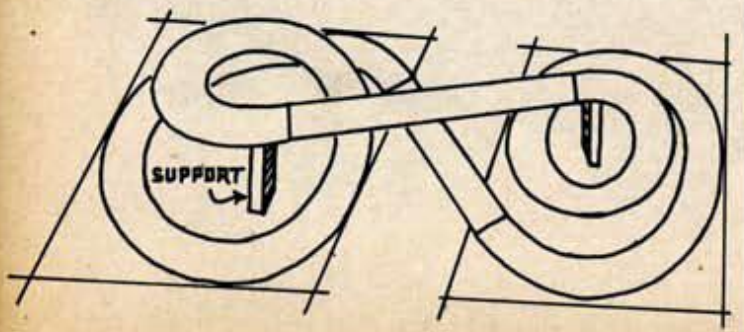
TYPICAL SPIRAL CUTS



MAKE TWO
4'x4' BOARDS



OTHER POSSIBILITIES



Mate the dowels & holes
Plug fits into receptacle to
provide electrical continuity (circuit).

New Action for 1/32nd Fans

from **VARNEY**

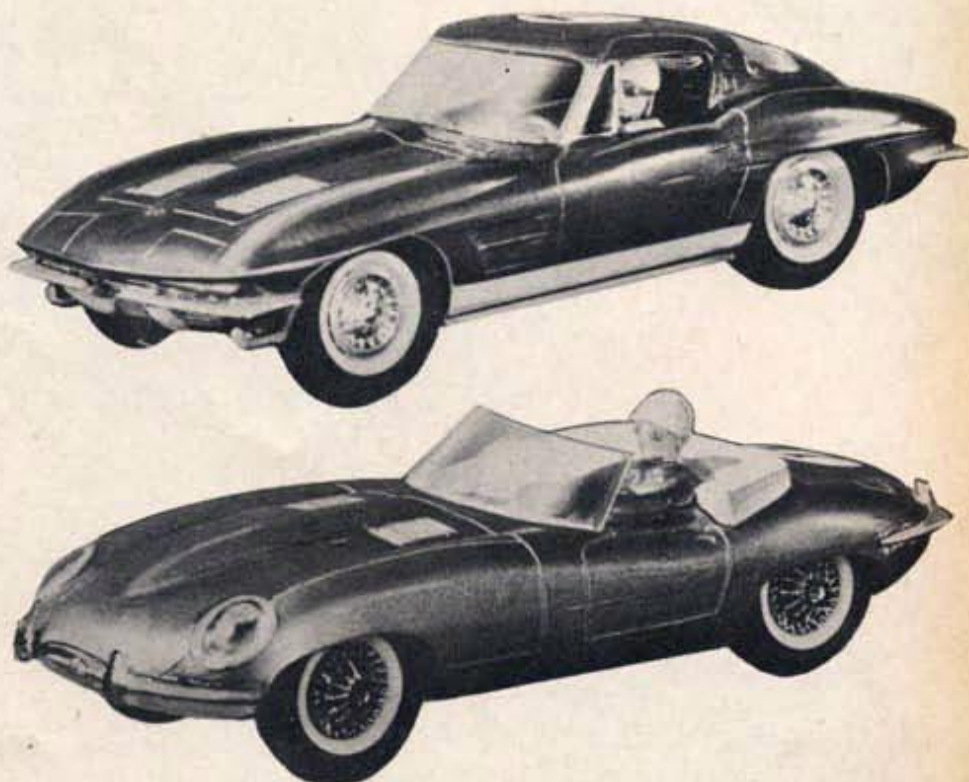
One of the biggest names in model railroading enters slot racing with some startling innovations.

All of Varney's five basic 1/32nd scale slot courses include everything needed to get started in the sport. This is but one of the infinite number of configurations that can be laid down — without use of a table! Track can be put away in its box moments after last checkered flag is down.

Long-time research and manufacturing experience behind a factory enables it to create and market an item that will almost automatically receive the stamp of approval from enthusiasts. As the principals behind the well-known name of Varney have been in the model making game since 1932, it stands to reason that their new offerings in the slot racing world will be as well accepted as have their famed railroad products.

Among the interesting features that the Varney 1/32nd auto racing sets have include; an all-new type of pre-fabricated track, named SLOT-LOK, which the cars cannot leave, due to violent spins caused by excessive speed, unless the drivers wish them to — track sufficiently wide that 360° circles can be spun without the car's wheels leaving the roadbed — cars that can loop a complete 180° turn and be driven back to their operators — guide shoes that rotate a full circle — a terminal section that can be connected to the factory-prepared track wherever the assembler wishes — and two exciting cars, with more soon forthcoming, which duplicate the details of their full-size counterparts in all respects.

Many of these features are due to the SLOT-LOK track, a real innovation in itself. The slots which the cars follow



Varney's initial cars are the Sting Ray (top) and Jaguar XKE. Both are well-detailed, powered by potent KM-1 motor, and are only a hint at what will soon be forthcoming from this experienced firm.

are not merely routed or molded into the track base; instead, the 2-lane sections are actually three separate pieces. When firmly clipped into the special connectors provided, the pieces are retained with the required slot gap between them. In other words, each section of track is three pieces locked together with a space between them for passage of the car's guide shoes.

The fact that the cars cannot leave the roadway is the responsibility of a patented "key" which is attached to the base of the guide shoe under the track, and which is sufficiently large that the guide cannot be lifted free of the track yet will glide smoothly along it. The fact that the cars cannot leave the track will undoubtedly save them while in the hands of novice drivers — a handy feature for those who don't wish to injure or destroy their machinery. Experienced slot racers may, if they desire, remove the "key" to return the cars to the more familiar type of operation.

The potent Varney KM-1 motor, engineered in this country but actually

manufactured in Japan, is what has been long been expected from this far-distant country which has shown its superiority in the electronics field in many types of products. The motor has proven so dependable that Varney is guaranteeing it for five years!

Although the Jaguar XKE and the Sting Ray cars are engineered to operate on the exclusive Varney track, they will also operate on any conventional 1/32nd or 1/24th scale track. An interesting bonus is a shift lever beneath the cars which enables the driver to select the proper rear end gear ratio to suit a particular course.

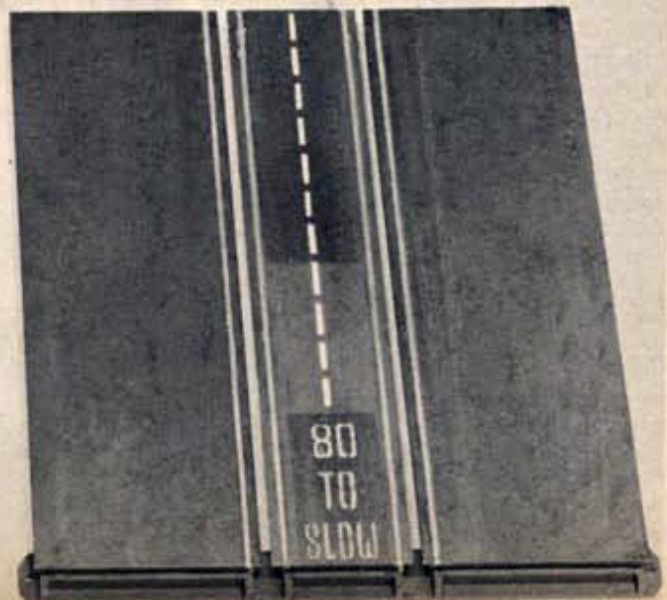
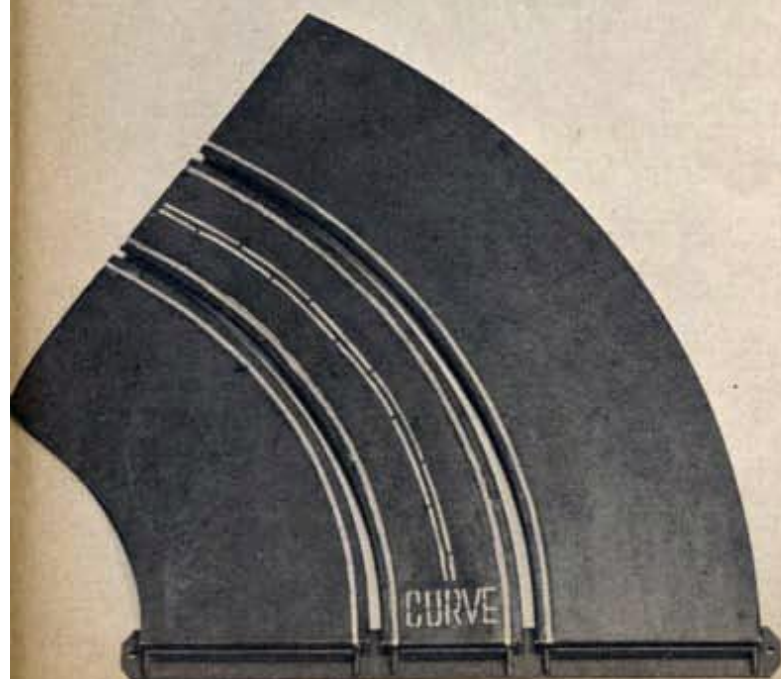
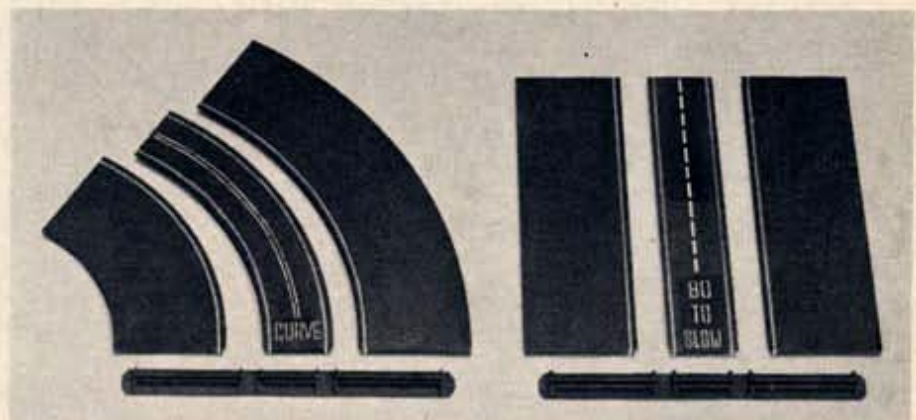
Although any of the new Varney accessories are available through hobby dealers, the firm also has prepared five basic sets, ranging in price from \$24.95 to \$49.95, with which the novice can enter the great slot racing pastime in one fell swoop.

Additional items are soon to be forthcoming from Varney, including special track sections, additional cars and track-side accessories reproduced in scale.



The exclusive Varney Slot-Lok track is actually three pieces joined by couplers that unite sections so firmly that track need not be permanent

The track assembled; pieces lock together and form two slots between them. Track is wide enough to permit 360° spins without the cars leaving the roadbed.



FORCES

and

FIGURES

Simple mathematics can
help you WIN RACES

By George Siposs

Mathematics is playing an increasingly important role in everyday life. Economics, life insurance, engineering, chemistry, electronics, space sciences — all are governed by certain rules which can only be expressed in one language: mathematics. It is a fascinating science and often so simple that it isn't as frightening as generally supposed. We use numbers to dial telephones, to calculate weights and money and always, perhaps without realizing it, we make use of this silent but dependable slave.

Let's see if we can apply some simple arithmetic to model car slot racing:

First, let's get acquainted with a formula or two — those fascinating little expressions that put into simple forms the laws which govern motion. As an example, we often use the phrase "miles per hour." What does it actually mean? Simply this: $S = D/t$, or, Speed equals Distance divided by time. Or, speed equals miles per (divided by) hour.

Let's take another example of a formula. Newton's Law states that acceleration equals force divided by weight. The written formula looks like this: $A = F/w$. Now, what does this mean to a slot racer? Simply this: Since the driving force is a limited, finite thing (being simply the power available from the car's electric motor) the only value we can control is the weight. The smaller the value of W in the equation, the

large value A will have. So to produce maximum acceleration from a given motor we have to keep the weight as low as possible. To picture this, a loaded school bus will take a city block to get up to speed whereas a light automobile will reach the same speed in a much shorter distance, even though the bus engine may have far more horsepower. One can increase A , of course, by increasing the driving force, but this can be carried only so far. The other way to get maximum performance is to decrease total weight.

Slowing down, or deceleration, is sometimes known as negative acceleration in scientific circles. Carrying the previous paragraph further we can see that to increase deceleration, or improve braking, we must obviously apply more braking effort or, again, decrease the car's weight. Thus, a light car will require less space to reach top speed coming out of a turn, and conversely it can go deeper into a turn under full throttle because of its superior braking efficiency.

There, a formula isn't so formidable, is it? In a few moments we've seen that weight is the enemy of acceleration and deceleration.

We are all familiar with the feeling of being "pushed" to the side of a car when rounding a curve. This action is known as centrifugal force. It is expressed by a

simple formula which states: $F = WV^2/R$, or, centrifugal force equals the weight of the car multiplied by the square of the velocity divided by the radius of the corner. This force is calculated in accordance with the formula above. The force increases with any increase of velocity, and it decreases with a larger radius turn. Thus, the lightweight car again has the advantage. Weight seems to be the enemy of all the forces at work during a slot race.

In the 1950's the Jaguars surprised everyone by going out and winning Le Mans hands down, while in prior years they had had no luck whatsoever. The secret was an improved braking system. Many people scratched their heads at this, because to win a race you need speed more than anything else. But the brakes were what turned the tide because the cars could approach the corners at a higher rate of speed, yet decelerate quickly enough to stay on the course.

The situation can be duplicated on the slot course. Suppose there is a race for 50 laps, and each lap has 15 turns. And let's suppose a car with superior braking power has slightly less top speed than its rival. If the slower car can go "deeper" into the turns, because of its braking, it can theoretically gain a couple of inches on each turn over its rival. The slower car will actually gain 30 inches per lap on the faster one, in 50 laps it will have gained a total of 125 feet, or well over a full lap.

Here's a neat trick to sharpen up your braking reflexes (in slot racing, the reflexes used to momentarily turn off the power to your speed controller). Put a length of Scotch Tape over one or the other of the contact strips just ahead of a tight curve. Run the car full speed into the turn and when it reaches the taped section the "brakes" will be automatically applied as the current can no longer reach the motor. If the car coasts through the turn without spinning out, peel off about an inch of the Scotch Tape and try the car again. If it still fails to spin, pull off another inch. By this trial and error method you will finally find the exact spot at which your car must be shut down and still make the curve. Chances are this point won't be very close to where you formerly thought it ought to be. If you've been making this particular turn, it's a safe bet you've been losing ground by shutting off the juice too soon. After you've determined the spot where the power must be cut and still have the car stay in its groove, remove the tape entirely and keep practicing until you can hit that same spot every time. By doing this at all the curves on your track, you'll soon be able to beat all your competitors even though your car may not be

necessarily the fastest. The only way to improve cornering further would be to reduce the car's weight or come up with a set of superior tires.

Gear ratios are another area where mathematics will definitely help the slot racer. The higher the revolutions per minute of a given motor, the more power it produces. Thus a rear end gear ratio must be selected which will allow the motor to turn as near its peak output as possible.

Before returning to ratio, let's be sure we understand just what it means. The word simply means the relationship between gears; or between the *driving* gear on the motor and the *driven* gear on the axle. If the driving (or pinion) gear has eight teeth, and the driven (or ring) gear has 32 teeth, then the ratio is 4 - 1. If there are only 24 teeth on the driven gear, then the ratio is said to be higher at 3 - 1. This all means that for a certain speed the 4 - 1 rear end will cause the motor to turn faster than the 3 - 1 gears. It also means that a given distance will result in more motor revolutions than with a higher ratio set of rear end gears. Since the motor turns faster and also since the distance to be covered is the same in both instances, the motor's load is distributed into smaller amounts for each revolution; simply because there are more of them. Since the motor load on each revolution is less, it can accelerate faster. Therefore a low gear results in rapid acceleration. A high gear gives slow acceleration.

Eventually a point is reached at which the motor can turn no faster. It has gotten to the limit of its speed. The speed of the car, with a given maximum motor rpm, is thus limited by the gear ratio of the rear end. If we use a higher ratio set of gears, the car will travel faster at maximum motor rpm, although, as we have seen, the acceleration will be less.

At first glance the highest possible top speed seems to be the answer for winning races. But actually this is seldom the case. Mathematics will help here again.

There are usually many turns in the average road racing course so top speed can rarely be obtained; there simply isn't enough straightaway length to reach maximum motor rpm's. Acceleration is more important — to shoot you out of the turns. If you gear for top speed, you won't have the acceleration to keep up with the pack. But on the other hand, if you gear too low, you'll accelerate all right but the other cars may pass you before you reach the next curve. Your motor is winding crazily but the car just isn't going anywhere. If there is one long straight on the course and the rest is sharp turns, you'll be better off to sacrifice top speed to capitalize on acceleration, necessary to increase your *lap speed* which, after all, is what you're after.

Here is a good way to select the proper rear end gear ratio. Experiment until you find the gears which will allow you to just reach top speed at the end of the longest straight on a particular course. If you reach peak speed halfway down the straight, you're geared too

low. If the car is still accelerating as it enters the curve, you're geared too high. A gear ratio midway between the two is your best bet. Your car will have good acceleration, yet will attain a very high straightaway speed; the best possible combination. Various courses will call for varying gear sets, so the well equipped slot fan should carry several gears with him whenever he goes out to race. Experience will show which course requires which gears.

While you're at it, check your lap times with a stop watch. If you can improve your lap time in practice to gain 1/10th of a second per lap, you'll knock five seconds off your time for 50 laps — often enough to win a race!

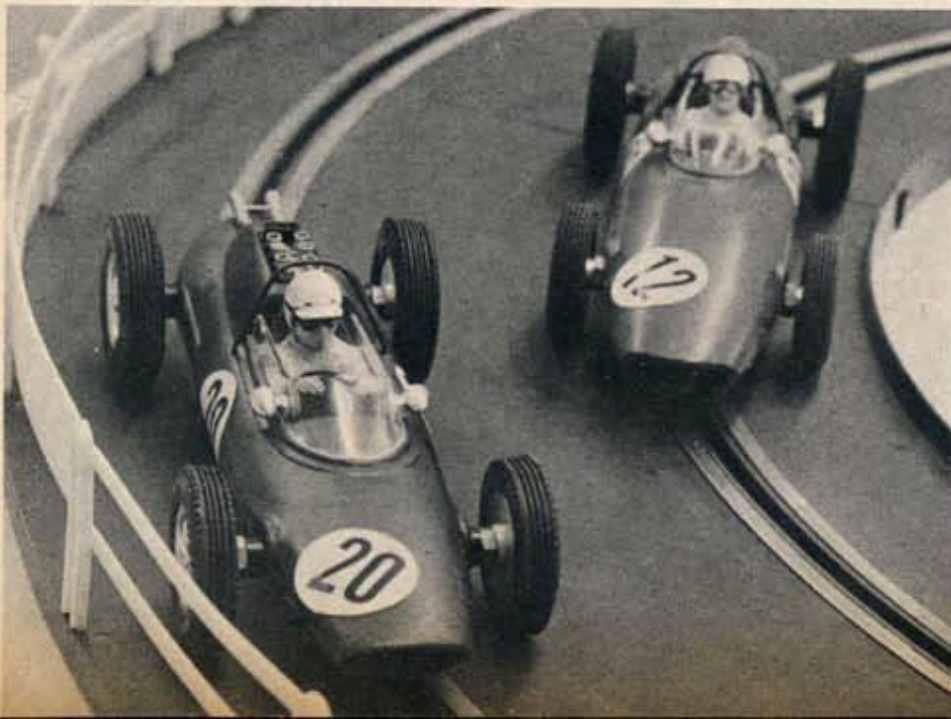
Getting back to the formula bit; here's how to compute the scale speed of your car: $L \times S \times .8/T = \text{Scale speed}$

S will equal the scale of your car (32, 25, 24, or whatever it may be). Example: Lap length of 100 feet times (scale of) 32, times .8 divided by (lap speed) 25.6 seconds. That equals a scale speed of 100 miles per hour — of course, that is average lap speed. The same formula can be used for any distance, be it a short straight or over several laps.

Happy calculations — and happy driving!



Weight is just as much the enemy of cornering and braking as it is of acceleration. Centrifugal force will cause the car to spin out or leave the course entirely when driven into a curve too fast.



Two of Revell's new 1/25th slot cars take a tight turn, the one to the outside ahead by virtue of the wider radius of the turn, even though it has farther to travel. Ultra-light in weight, both cars will accelerate rapidly out of slow curve.

SLOT RACE

Scoring

**ACCURATELY SCORING RACES IS DIFFICULT
AT BEST. HERE'S THE PROPER WAY
TO DO IT — AND KEEP EVERYONE HAPPY.**

It frequently happens during races staged by newly-formed groups that problems arise which cause confusion and a resultant loss of interest. To obtain maximum enjoyment and to maintain high interest rigid rules should be initially set on scale and body styles, regardless of the type or size; GP, Sports, and Stocks, for example. One problem that new groups seem to face is the setting up of races that are fair to all entries. This month we will show an organizational style that will give everyone an equal number of races, and fair slot changes regardless of the inherent unfairness that the particular track possesses.

Our simulated race will be held on a four lane track, will have twelve entries, and has a lap distance of fifty feet. Actually, the system will work exactly the same with any number of lanes, any number of entries, and over any lap length. On short tracks more laps per race should be encouraged to give everyone a reasonable amount of operation time. Our race will see everyone run on every lane twice and run in a minimum of five races. (Diagram 7). During the heat races each driver will compete against six different cars and in all four lanes. In a driver's final race he could run against three cars that he had not met in the earlier heats, thus running against nine different cars in five races. The twelve entries will create twelve heat races, followed by two semi-main events, and one final main.

The system can best be described by referring to the diagrams which appear on the opposite page. First of all, it is wise to assign permanent numbers to the regular members of the club or group. It is normal to leave the first three numbers open for the season's top three point winners. It should not be required that a member carry his number on his car, but he may if he wishes to do so. This number system is simply a faster method

to call off and score races. It is wise to use low numbers and to reserve numbers from, say, 50 up for visitors. In our race example we will call our drivers 4 through 15.

Race procedure: Sign-in. Heats 1 through 12. Run-offs that may be required due to ties. 1st semi-main (or semi-semi-main). Semi-main. Main event. Posting of total points for the night.

Diagram 1 shows the sign-in numbers in line. The boxes to the right of the driver's numbers are for the lane numbers. These sheets can be mimeographed in quantity in advance of weekly races.

Heats. The first heat race will see drivers 4, 5, 6 and 7 competing on lanes 4, 3, 2 and 1 (Diagram 2). The second heat drivers 5, 6, 7 and 8 on lanes 4, 3, 2 and 1. Third heat drivers 6, 7, 8 and 9 on lanes 4, 3, 2 and 1. So on through-out all the heats. In the 10th heat race driver 4 will reappear on lane 1 and work across, 5 will come back in the 11th heat on lane 1, and 6 in the 12th on lane 1 to finish the heats.

With all the heats completed the points each driver has gained are totalled on the righthand side of the chart (Diagram 3). Those with the *lowest* scores go into the main event, the next four into the semi-main, and the remaining four into the semi-semi-main. You will see in our simulated race that a run-off (Diagram 4, top) was needed between three cars to see the winner go into the semi-main and the other two into the semi-semi.

A low score is a good score (Diagram 6). 1st place is worth 1 point. 2nd is worth 2 points, 3rd is worth 3 points, and so forth. A DNF (did not finish) is 5 points (given in the event of a mechanical failure), and 6 points is given those cars which spin and do not restart, flip over, etc. Usually a roll-over will put you out of the race, just as it would in a full-size event. But in the event your car was touched by another

which caused it to roll, then you may restart.

In both the semis and in the main event each of the drivers will run in every lane, giving all the fairest possible chance. For example, in the semi-semi event five cars will run in each lane. Seven in each lane in the semi, and ten in each lane in the main. Each lane change sees a driver move into the next lane to the right, the driver starting in the far righthand lane going back onto the far left lane, and so forth. The lap-counting continues on for a single race rather than being scored separately as are the heats. No points are given for run-offs, these are only to separate the cars into their future starting positions.

When all the races have been run off (Diagram 5) the points should be totalled for the night and posted so the drivers may keep track of how they finished and how they are doing toward the season's totals (Diagram 4, bottom). The point system keeps cars and drivers reasonably close so that if a driver has a bad night he can still come back strong later to stay in contention. A perfect score would be a low 5 points, while a flip in every race would produce a poor 30 points. Finishing fourth in every race would give a driver 20 points, while the average would probably be in the neighborhood of 13.

In order to keep interest at a high level, it is suggested to total up all the member's points at about three month intervals. The point champion would then begin carrying the number 1 on his car and keep it for the following three months.

Once this system is studied and put into practice, it will seem easy to use. If all the diagrams and cards are kept on hand, reference can be made back to them to settle a later argument, etc. Too, this scoring method allows the inclusion of the always-late-comers during the heat races without upsetting the schedule.

DIAGRAM 1

DRIVER NO	LANE 1	LANE 2	LANE 3	LANE 4	TOTAL POINTS
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

DIAGRAM 2

HEAT # 1				HEAT # 2				HEAT # 3				HEAT # 4			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
7	6	5	4	8	7	6	5	9	8	7	6	10	9	8	7
DRIVER #															

DIAGRAM 3

DRIVER NO	LANE 1	LANE 2	LANE 3	LANE 4	TOTAL POINTS
4	3	6	2	1	12
5	6	3	3	2	14
6	4	4	4	3	15
7	2	3	1	4	10
8	1	2	1	4	8
9	4	2	3	1	10
10	3	2	2	4	11
11	1	3	2	3	9
12	4	3	2	3	12
13	1	5	1	1	8
14	1	2	2	1	6
15	4	5	2	1	12

RUN-OFF

CAR NO.	FINISH
4	1
12	3
15	2

DIAGRAM 4

MAIN		SEMI		S SEMI	
C#	POINTS	C#	POINTS	C#	POINTS
14		7		15	
8		9		12	
13		10		5	
11		4		6	

DIAGRAM 6

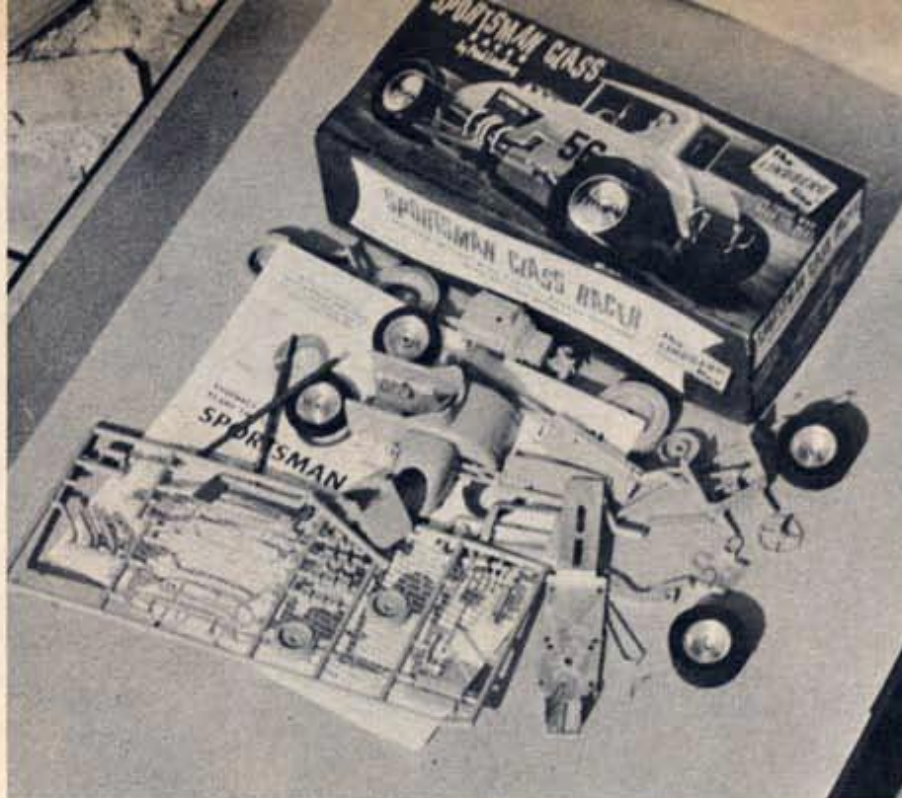
CAR NO.	HEATS	MAIN	SEMI	S SEMI	TOTAL
4	12		1		13
5	14			4	18
6	15			2	17
7	10		4		14
8	8	1			9
9	10		3		13
10	11		2		13
11	9	4			13
12	12			3	15
13	8	2			10
14	6	3			9
15	12			1	13

DIAGRAM 5

MAIN	SEMI	S SEMI
14	3	7
8	1	9
13	2	10
11	4	4

DIAGRAM 7

CAR #	RAN AGAINST
4	9
5	7
6	7
7	6
8	8
9	7
10	7
11	6
12	9
13	7
14	7
15	6



Parts from the Lindberg Sportsman kit and Auto Hobbies chassis make an impressive pile. But not all will be used.

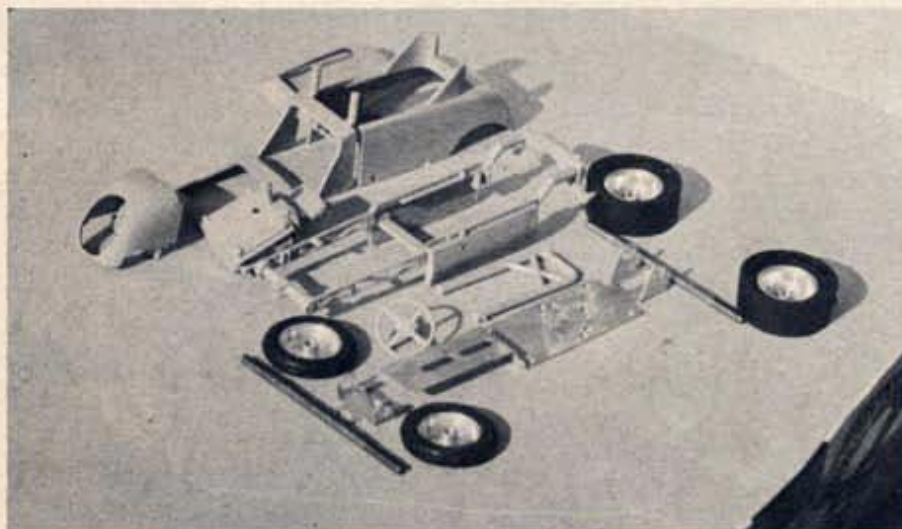
Let's go racing with a different but exciting body class — inexpensively, too.

by Bill Sippel

It seems important to the slot racing world that new and different classes of cars be added to the over-populated Sports Car, G T, Indy-type, and Stock Car groups. Variety is, as always, the spice of life, so the running of rather unusual-bodied cars should definitely be encouraged.

Looking over the current releases in kits we spotted the Lindberg Sportsman selling for 69¢. This type of racing car is popular in full size throughout the U.S. and has already been tried on at least one slot track with immediate success (see Club of the Month in this issue). Feeling this car might be fun to build, here is a how-to we worked up.

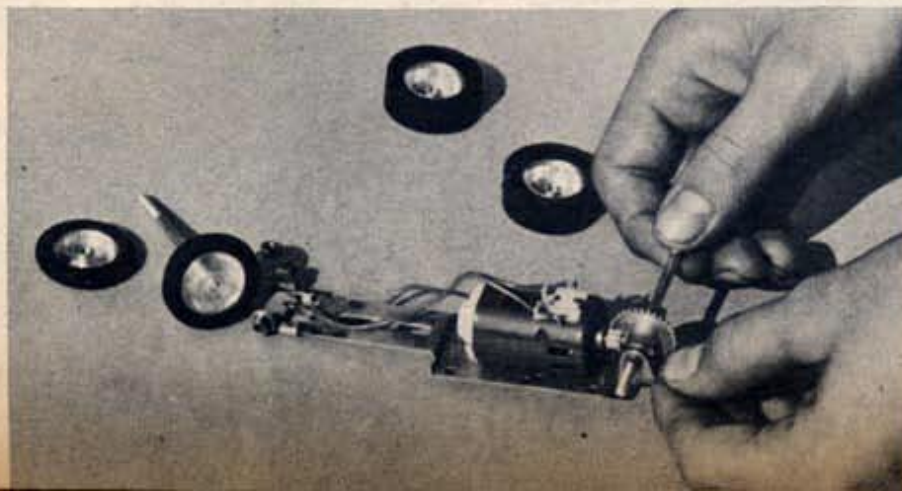
POWERING THE



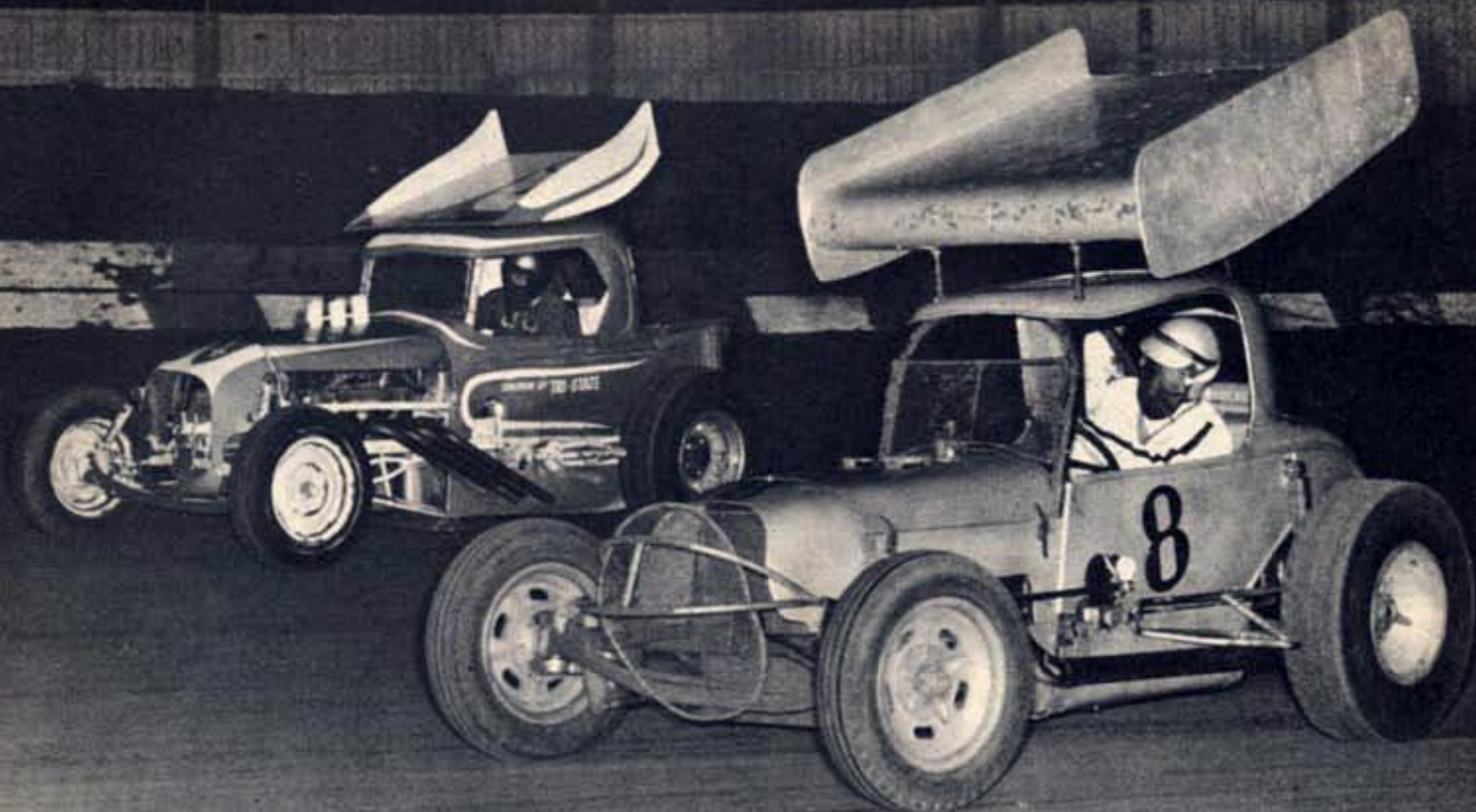
A more highly detailed version could be set up but we preferred simplicity. To be raced in earnest, the car should carry bumpers, or nerf bars, and it could stand greater power. Although we used the Strombecker Mabuchi motor, many others could be fitted inside the body.

The plastic frame was set up using the front and rear, and rear engine mount crossmembers. We selected an Auto Hobbies chassis and mounted the Mabuchi motor according to the instructions. To slip the brass chassis into position in the plastic frame the inner ribs on the plastic side panels and the front section of the roll bar bracket had to be filed away. Now the plastic frame will fit snugly over the motor. The front of the motor will just be touching the rear of the plastic engine mounting crossmember. Next, clip off and finish-file the plastic spring hanger bracket on the front of the crossmember.

Plastic parts not used from the 69¢ kit are discarded, bringing the components needed down to a respectable few.

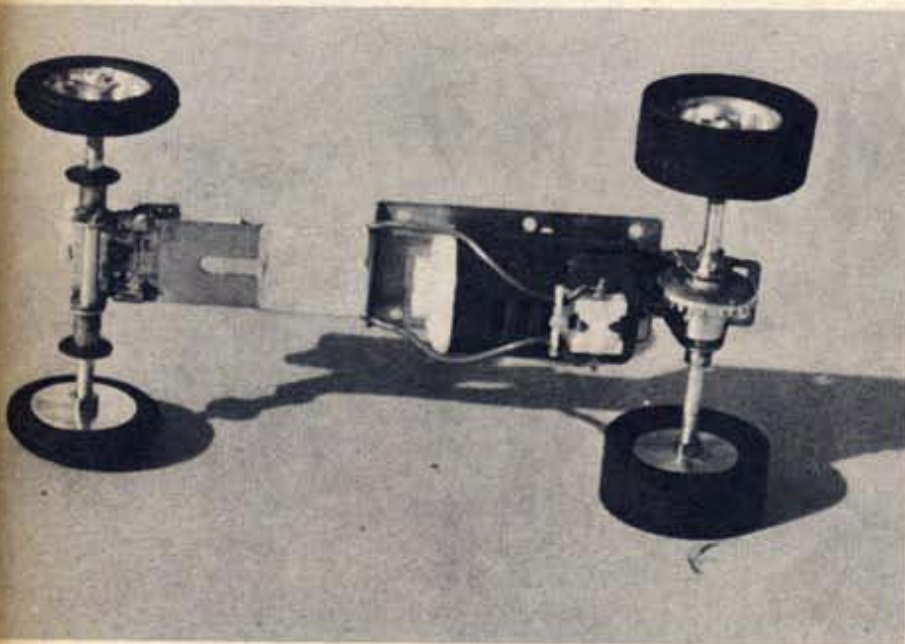


Auto Hobbies chassis assembly is easy as steps follow the directions supplied. The motor used here is a Mabuchi.

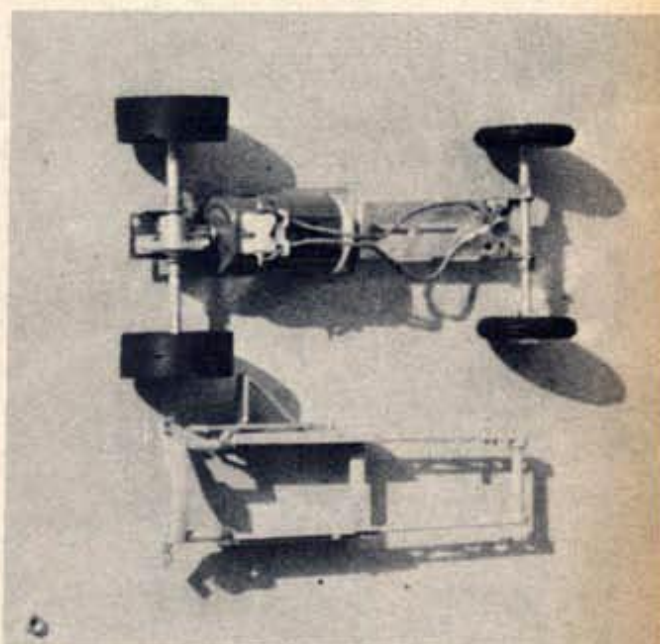


SPORTSMAN

FULL-SIZED SPORTSMEN BOOM THROUGH A TURN IN A RACE: AND JUST AS MUCH ACTION CAN BE DUPLICATED ON THE SLOT TRACK. A VARIATION HERE ARE THE "WINGS," ADDED FOR TRACTION AND STABILITY, WHICH COULD BE INCORPORATED ON THE MODEL.



Top view of the assembled chassis looks like this. Stock chassis is luckily narrow enough to fit Sportsman body.



Plastic frame, on right, has been trimmed to allow the brass chassis to fit it with a perfect match.



Body sides and cowl are checked for fit on the simulated frame, though true chassis components ride on brass.

Due to the lengthy $4\frac{1}{4}$ " wheelbase of the Sportsman, the front axle assembly of the brass frame does not have enough overlap to secure it with a screw. Therefore it must be soldered into position. To hide the guide shoe to some degree we cut off the normal mounting clip and reamed the existing adjustment hole behind the axle to $\frac{1}{8}$ th-inch diameter. The guide bushing was then soldered in alignment with the hole on the underside of the brass chassis.

Now the body, hood, shell, radiator and roof of the Sportsman can be assembled to the plastic frame and painted in any color. Next comes the steering wheel and the roll bar; some trimming needed on the latter to clear the electric motor. The driver was pirated from a Strombecker kit, sawed through his midsection, and glued in place.

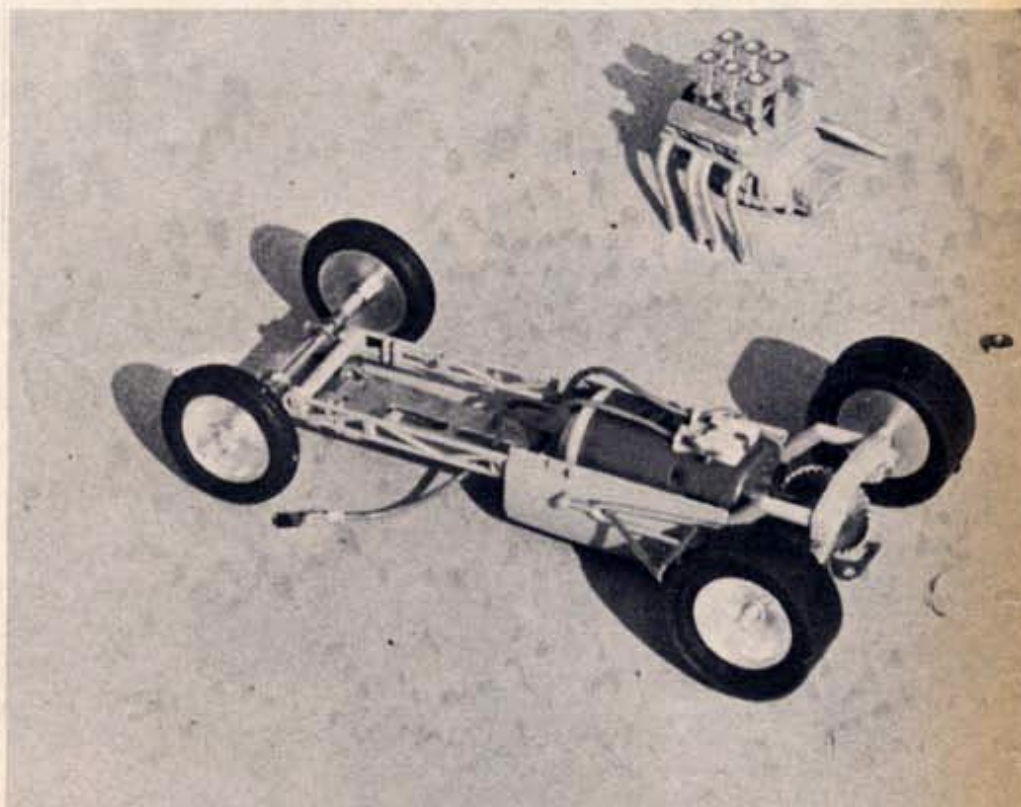
The two halves of the plastic engine are now glued together. The rear half of the oil pan was cut off, and $\frac{1}{8}$ th-inch of the rear of the transmission sawed away, both for installation clearance. The remaining parts of the plastic engine can now be assembled, the engine installed and the body bonded to the plastic frame.

It will be necessary to do a little filing at this point if the Auto Hobbies chassis is used with this particular body. The bull-nose shell must have extra clearance right over the axle bushing, accomplished with a small round file.

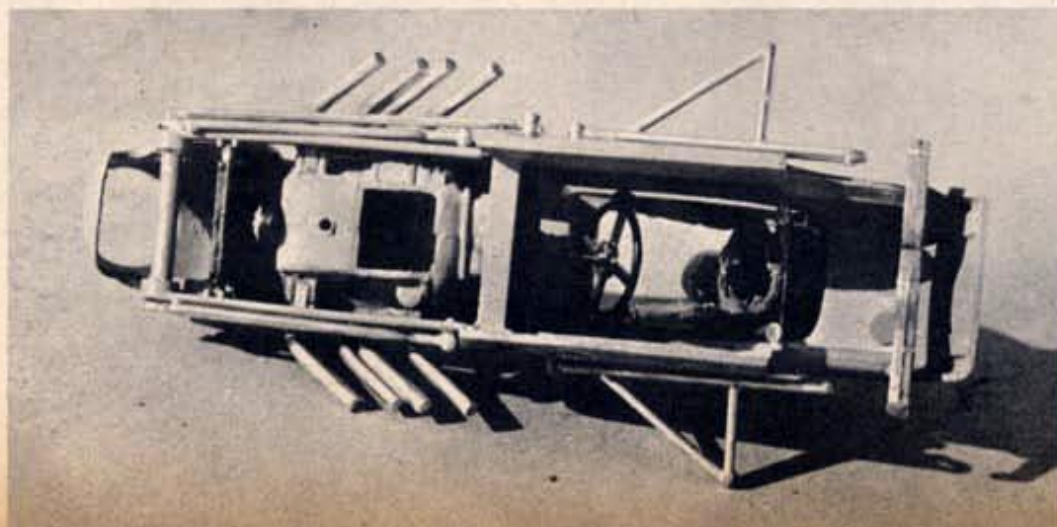
The rest of the Auto Hobbies chassis was assembled according to the directions that came with it, everything in stock position as the use of this body demands no special alterations in this department. Axles, wheels and tires were



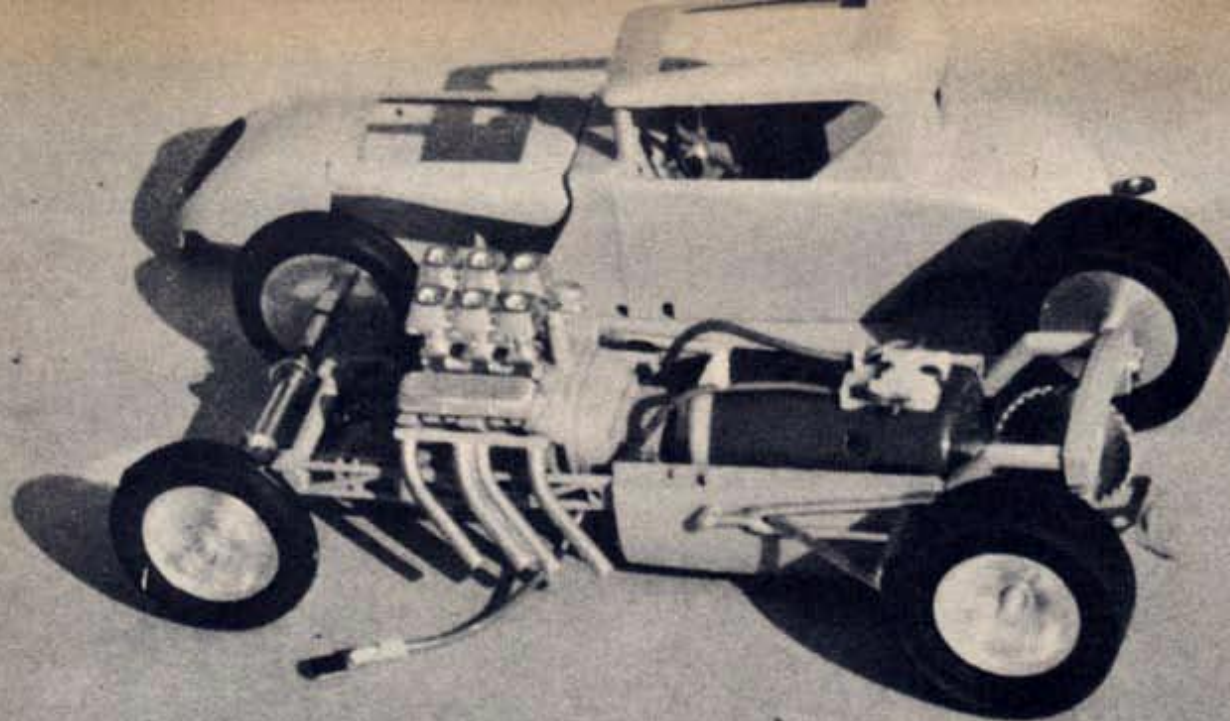
The plastic engine's oil pan is sawed away, and rear of transmission eliminated, for brass frame clearance.



Dummy engine is now assembled and ready to unite with chassis which here has had the dummy plastic frame installed.



The finished body, from beneath, with engine oil pan and Strombecker driver cut away for chassis and motor clearance.



Chassis and body completed, except for installing guide shoe. Whole chassis is held to body by two screws.

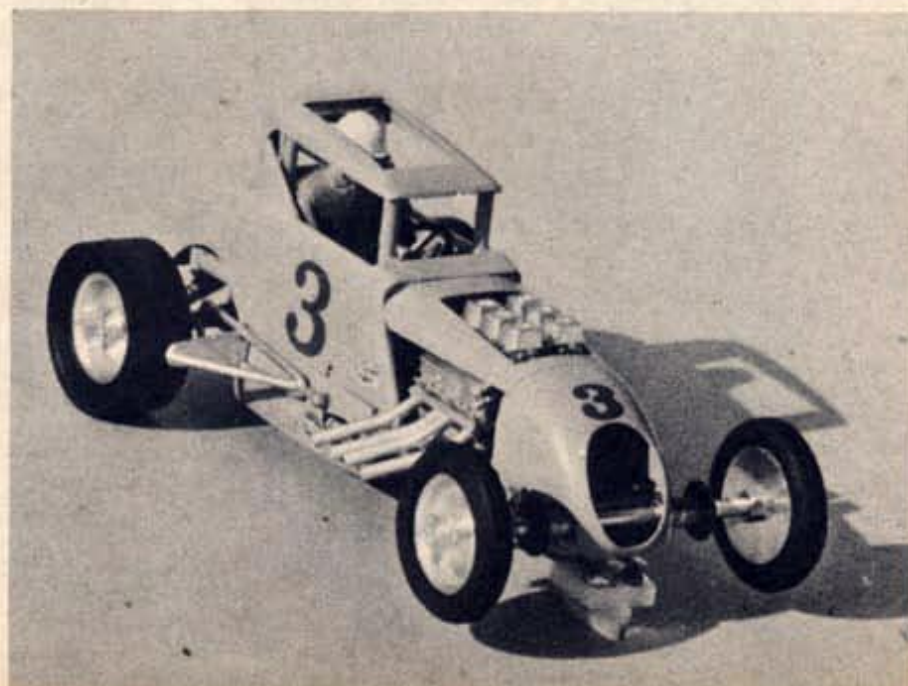
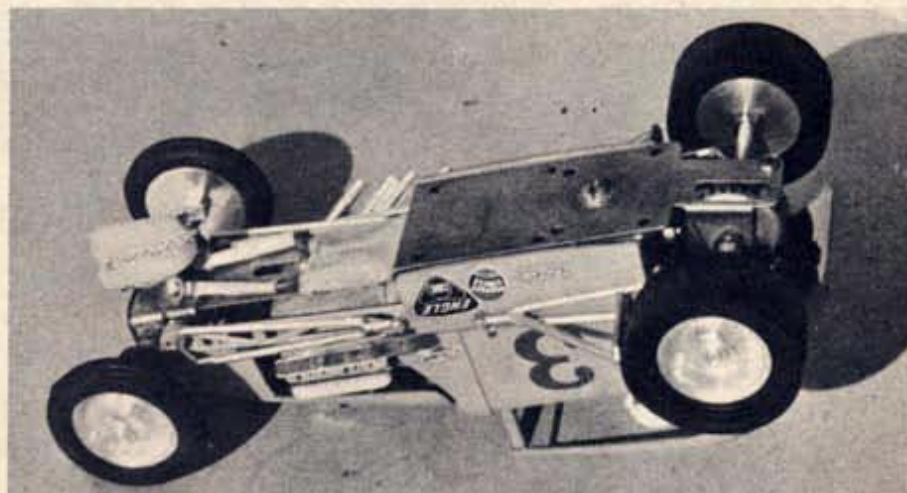
A final look underneath before first track trial. Rear of body is retained by screw on far side of the ring gear.

added and the chassis positioned inside the body. Reach through the slotted hole in the brass chassis that is directly under the plastic motor and drill a small hole in the oil pan. A self-tapping screw inserted will be sufficient as a front mount. In the rear we drilled a hole into the plastic spring to align with the brass frame's rear mounting hole, and tapped it with a 2-56 tap. Then we installed a 2-56 screw threading it into the plastic. It is locked by a jam nut at the frame to keep it from turning.

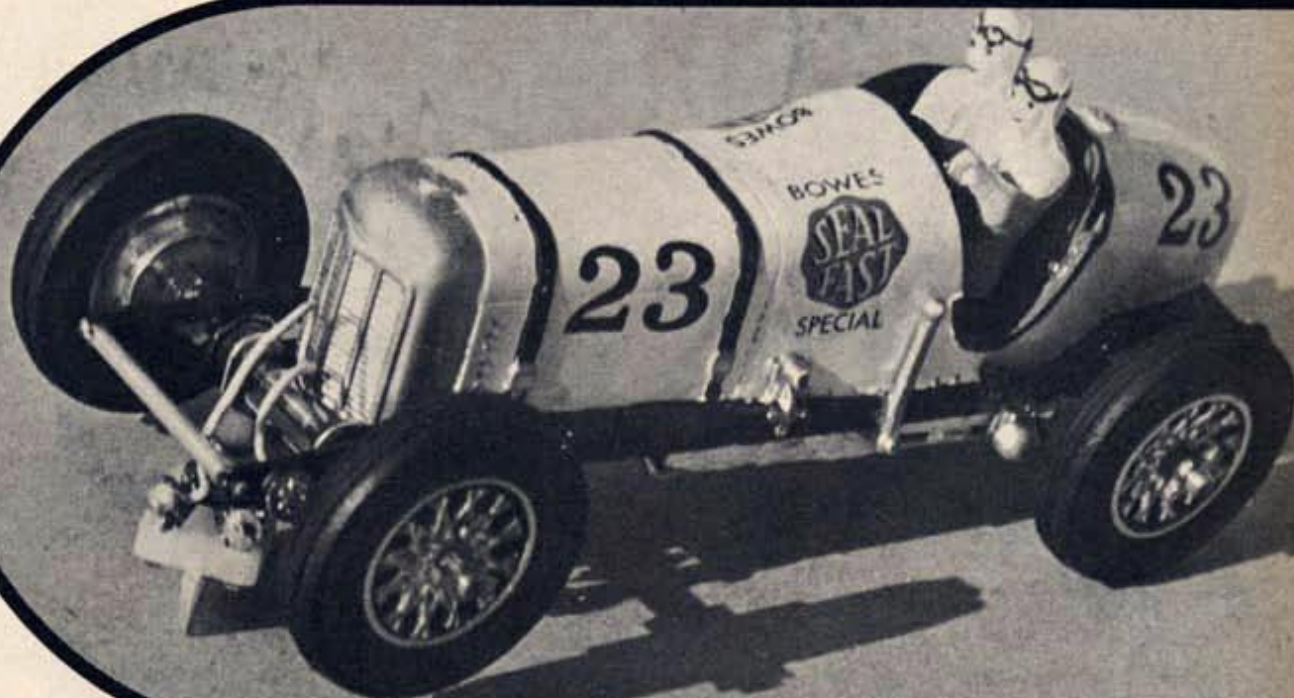
Now that the car is basically assembled and in an operational state, decals, radius rods, the drag link, and so forth, can be added to bring the model to a well-detailed stage.

As there are a wide variety of wheels, tires and motors on the market, the construction price of the Sportsman can vary considerably. Our example cost just a shade over \$7.00 — and building time from start to operation ran just four hours. Early runs showed great possibilities, the car handled well and despite all the added bits of detail it was very low in weight as shown by its rapid acceleration. With a few more cars of this type in our own area we expect some exciting racing this fall.

O.K. Let's go racin'. Though unsprung and with front wheels rolling on track, Sportsman handled and went very well.



A CHALLENGE



Three beautifully-built display Indianapolis cars compete

By Spence Murray

When Dave Small electrified his well-detailed version of an Aurora Miller Special Indianapolis car, he issued a challenge to all comers to compete against him on the 94-foot Auto Hobbies track in Glendale, California. Numerous fans accepted the dare but most later backed down when it was realized that the great amount of work and expense involved in meeting the standards Small established would go for naught. After the race there would be little chance for further runs as the cars are big, being constructed to 1/24th scale and thus necessarily heavy, and they could not compete fairly against more modern race cars.

So it was on the night of the championship that only three competitors reached the pits. Accepting the challenge set forth by the Miller Special, Indianapolis winner in 1931, were two replicas of the Gilmore Speedway Special, also from display kits by Aurora. The Gilmore car was the victor of the '35 500 event, thus all three entries met the requirement that they be modeled after Indy winners prior to 1936.

Small's white Miller Special was powered by a Revell #77 motor mounted on an Auto Hobbies chassis. Scale size tires

meant that even with a low rear end ratio acceleration was somewhat lacking, though top end was considered fantastic. The car carried driver and riding mechanic, as did the fabulous prototype, plus the numerals and other lettering that always appear on these specialized machines.

Challenge-taker Andy Dehn's red and yellow Gilmore car boasted a Pittman 62B motor on a homebuilt chassis. Dehn's car carried the same number 5 that the prototype wore at the brickyard in '35 and, as required, carried driver and mechanic and rolled on scale tires.

The third machine, by Bob Camp, was a second Gilmore car — and as the rules called for each contestant to be a true copy of the original — it was colored and equipped exactly as the other; even unto the number 5 which made scoring somewhat difficult. To distinguish between the identical machines, Camp's was fitted with a black exhaust header while Dehn's was silver. Camp's outstanding version of the Gilmore car used a Revell #66 powerplant on a homemade chassis.

Though the twisting course's slots are precisely the same length per lap. One is somewhat more difficult to negotiate due to more sharply radiused turns.

Therefore, the race, to be run for 100 laps, was broken into six heats; 16 laps per heat for the first five heats, twenty for the final. In this manner each car would run twice in each slot giving all three an equal chance at the trophy.

Marshalls were posted around the circuit after all lanes and contact strips were thoroughly cleaned with alcohol. At promptly 9:00 p.m. the starting bell sounded the start and the three big cars leaped simultaneously off the starting grid.

Dehn's Gilmore was first to the turn, slithering 'round in a drift that, due to the car's extreme size, effectively blocked the other racing lanes. The drivers saw immediately that passing on most of the course turns was impossible and the meet became one of highest possible straight-away speeds and last-split-second decelerating before the bends. There was considerable nerfing through the esses, each car staying right on top of the others in the hopes that a burst of speed on the short straights might give them the lead.

The twin Gilmores had nearly equal acceleration, both pulling the Miller out of the turns, but the Miller's greater top speed always closed the gap by the end of the main straight and the #1 turn, a

from YESTERYEAR

Dave Small's '31 Miller Special used a Revell #77 powerplant, Auto Hobbies chassis. Both driver and riding mechanic had to be carried in the one-of-a-kind hundred-lapper. Scale tires were authentic but presented handling and acceleration problems in 1/24th size.



Bob Camp's Gilmore Special, powered by a Revell #66 motor on a homemade chassis, reveals detailing required to enter the exclusive race. Entries were limited to exact reproductions of Indianapolis winners from prior to 1936.



electrically in a slam-bang race for ultimate victory.

climbing 180° twister, saw lots of close action.

Camp's #5 Miller was first across the line at the end of the initial 16 lap heat. Immediately that the lap counter signaled this crossing of the line, track juice was switched off and when the cars had coasted to a stop their relative positions were calculated. Dehn's Gilmore Special had completed 15¼ laps to Camp's 16, Small's Miller going but 13½ due to two wild spins at the same spot on successive laps.

Each car was placed in another slot but in the same relative position to each other. Again the bell sent them off and Dehn's Gilmore Special set off to try and work up and cop the lead. The Miller, already 2½ laps behind the leader, was thought to be suffering from gear mesh problems as its accelerative qualities were visibly erratic. Nevertheless, careful driving saw the Miller began to painfully regain lost distance until a spectacular flip on the high bank lost it more valuable ground.

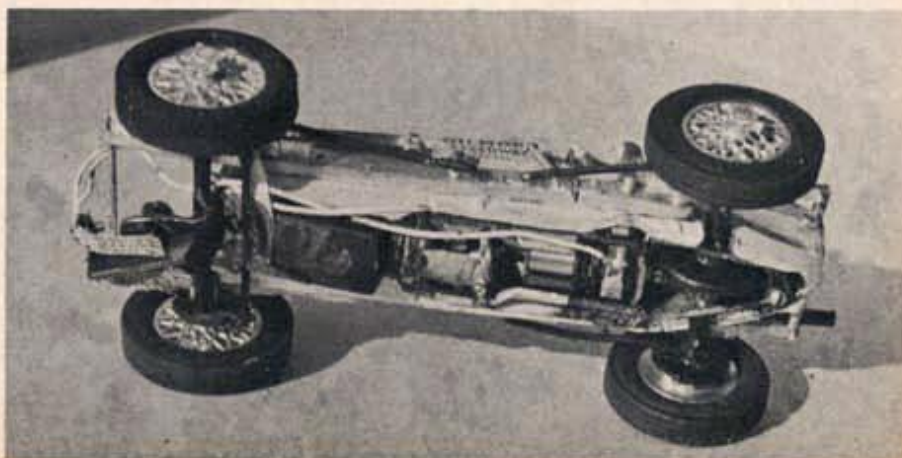
Body interior of Camp's Gilmore was well filled. Note large ring gear to compensate for scale-sized tires, a race requirement.

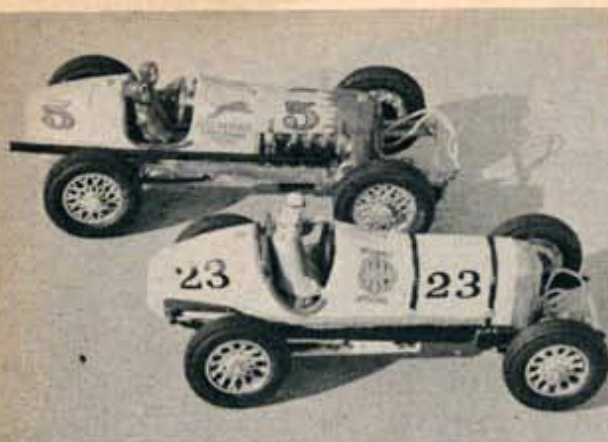
Heat #3 was begun with Camp's #5 still ahead, Dehn's identical car now one full lap behind and the suffering Miller 3½ laps out of first. Loud grating sounds from beneath the Miller's shining exterior hinted at things awry in the gear train, but once again superb handling kept it in the contest and it turned several laps in 15 seconds flat, as much as two seconds faster than the Gilmores.

It was in this heat that the lead changed; Dehn's Gilmore in the 41st lap overtaking Camp on the main straight where a spectacular burst of

acceleration out of the preceding sweeper shot it beyond the former leader in a wild series of wheel spinning yaws that lasted the full 40 feet.

At the end of the 4th heat Dehn's Gilmore, now too hot to touch, had completed the 64 laps to Camp's 63½ and the Miller's 59¾. The white car, always a front runner during its heydays at Indianapolis, never suffered as it did this night. Something loose inside would, under the effects of centrifugal force, separate and the motor would wind without load. Then just as suddenly the





The Miller and one of two Gilmore entries side by side before the contest. Aurora offers the only display cars of pre-'36 Indy fame. Electrifying the models was as much of a challenge as the race itself.

Whoop-se-daisy! Throughout hundred lap race the Miller faltered horribly, had a bad habit of accelerating without warning. Here it comes through an end-over unscathed, but totally disintegrated on final safety lap.



gears would mesh again and the Miller would lunge off in a series of bouncing wheelstands.

At the beginning of the final 20 lap heat Dehn's car retained its lead, though now reduced to only a quarter of a lap over the second place Gilmore of Bob Camp, while the Miller trailed by 4½ laps. The Miller's gear noise could be heard in all corners of the room and a shower of brass dust issued from under the tail whenever it was fully accelerated.

Dehn's Gilmore completed the 100 laps to Camp's 98½, and the now-smoking Miller managed to go 94¾ — maintaining its trailing position far better than was earlier hoped. But while being run from its finishing spot on the table to driver Small's position at his speed controller, the Miller disintegrated when the motor, which it was found had come loose from the chassis causing the erratic gear meshing, jammed sideways and popped the body off the frame. Thus freed of enclosure, the motor dropped beside the track, the chassis and rear wheels rolled across the paralleling lanes, and the guide shoe and front axle assembly coasted to a stop before the wide eyes of a sadder but wiser challenger.

Victory smiled on Andy Dehn's great Gilmore Special which, thanks to sheer driver concentration in the face of hot competition, won the first challenge race for pre-1936 Indianapolis cars on a road racing circuit.

Small (left) and Camp (right) try to outdo eventual winner Dehn (center). At this point Camp's Gilmore was leading, Dehn's trailed by inches, but the Miller, suffering internal ailments, follows by three laps.



Winner by 1½ laps over second place, Andy Dehn proudly holds his challenge-taker. Battle lasted nearly an hour due to time spent between the heats cooling motors. Dehn appears to be looking for more competition for the individualistic car.

Table Top Photo Contest

Top action photos to reach MCS during the last month are these shots produced by the partnership of Stephen Alexander, John Bruce and Wayne Knight of Fulton, Kentucky. With a disregard for scenery that rivals the most ambitious Hollywood movie producers, these table toppers have caught some destructive scenes that make you duck for cover. The \$25 October prize is in the mail to our Kentucky winners.



PHOTO CONTEST Each month MCS will award valuable prizes to the readers who submit the best photos of slot racers in action. Send your photos to:

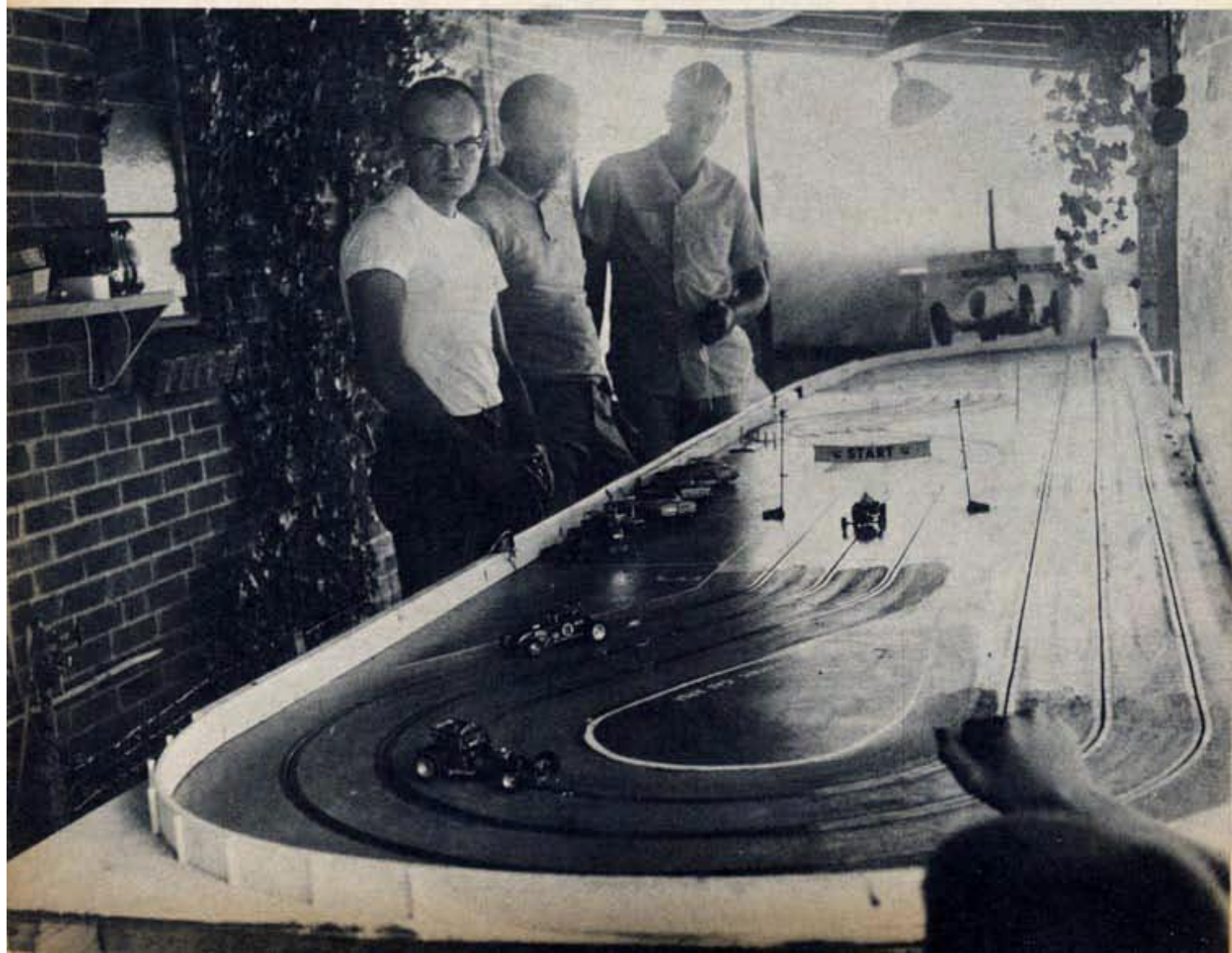
Table Top Photo Contest
Model Car Science
171 Barrington Pl.
Los Angeles 49, Calif.



Spotlights: Club of the Month

EVERLING RACEWAY

From Tucson, Arizona, comes this month's selection of club of the month. The Everling Raceway has been in operation for just a year, so now that the kinks have been worked out of the track the eager club members are constructing a new one — 18 feet by 32! President Gordon Everling races full-size cycles when he's not slotting on the present 4-lane setup which has lap lengths of 54 feet. Races are held regularly in 1/24th scale with classes for Modifieds, Stocks, Coupes, Indianapolis cars and Sports. A new and popular class is the one for Sportsmen, with three avid contenders shown here, and elsewhere in this issue is a how-to story for building your own.





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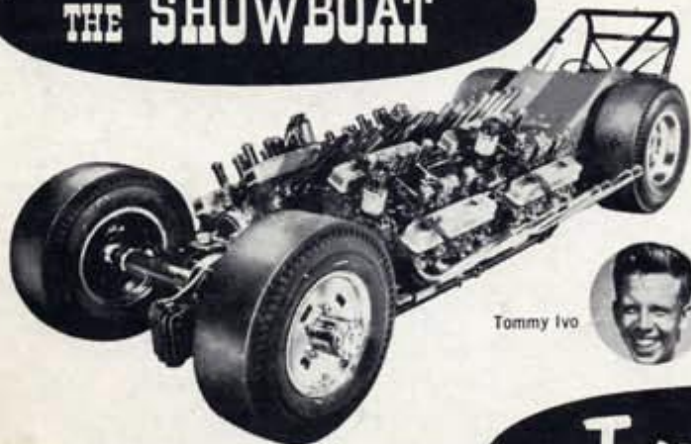
ON THE STRIP

ON THE STREET

OVER THE WAVES

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"Big Daddy" Roth



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